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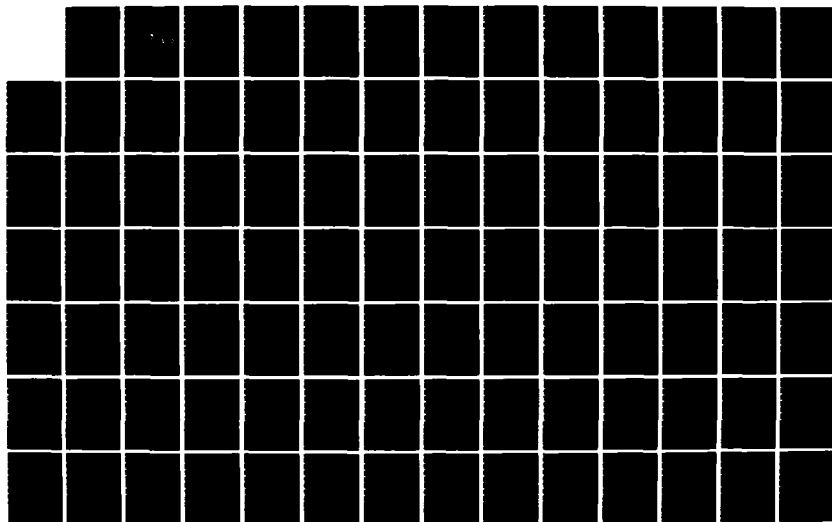
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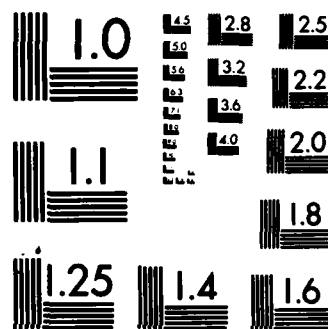
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THESIS

AN EVALUATION OF MARINE CORPS
EDUCATIONAL CREDENTIALS

by

David B. Franke

December 1983

Thesis Advisor:

M. J. Eitelberg

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This thesis analyzes various personal and performance variables from a data base consisting of male, nonprior service recruits who entered the Marine Corps between October 1978 and April 1983. A recommendation is made for reclassifying the credentials that comprise the two-tier system. In addition, a three-tier system for categorizing educational credentials based on in-service performance variables is proposed.

The proposal and recommendation made in this thesis are "exploratory" in nature, and further research is encouraged.

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An Evaluation of Marine Corps Educational Credentials

by

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B.S., Southern Oregon State College, 1971
M.B.A., National University, 1981

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

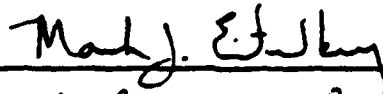
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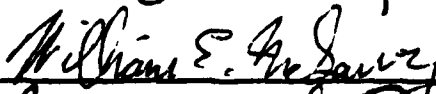
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ABSTRACT

The Marine Corps classifies civilian educational credentials into 16 categories. These categories are further divided into two groups--high school graduates and non-high school graduates. This two-tier system is the structure currently used by Marine recruiters to determine an applicant's basic eligibility for enlistment. Applicants who are high school graduates are preferred over those who are non-high school graduates for a variety of reasons.

Difficulties arising from the two-tier system stem from the increasing types of educational credentials now available to prospective applicants and the varying definitions and treatment of educational credentials from Military Service to Service.

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The proposal and recommendation made in this thesis are "exploratory" in nature, and further research is encouraged.

TABLE OF CONTENTS

I.	INTRODUCTION -----	12
II.	BACKGROUND -----	17
A.	FORMAL PROCESS FOR ENLISTING IN THE U.S. MARINE CORPS -----	17
	1. The Enlistment Interview Process -----	22
	2. Preenlistment Interview -----	23
	3. Enlistment Interview -----	24
	4. Testing -----	25
B.	RECRUITING REALITIES -----	26
	1. Treatment of Students About to Graduate -----	29
	2. Verification of the Applicant's Education -----	29
	3. Recruiter Productivity and Pressure to Make "Quota" -----	30
	4. Acceptance of Applicants for Special Programs -----	31
C.	EDUCATIONAL STANDARDS FOR ENLISTMENT IN THE MARINE CORPS -----	32
	1. Persons Considered Non-High School Graduates -----	35
	2. Persons Considered High School Graduates -----	35
D.	THE CURRENT PROBLEM OF EDUCATIONAL CREDENTIALS -----	42
	1. High School Diplomas, Public Schools ---	44
	2. Private Schools -----	45

3.	Nonaccredited High Schools -----	46
4.	Certificates of Attendance and Completion -----	46
5.	Correspondence School Diplomas and Certificates -----	47
6.	General Educational Development (GED) Certificates -----	47
7.	Adult Education -----	48
III.	STATEMENT OF THE PROBLEM -----	50
IV.	SCOPE, OBJECTIVE, METHODOLOGY -----	59
A.	SCOPE -----	61
B.	OBJECTIVE -----	63
C.	METHODOLOGY -----	64
V.	ANALYSIS -----	69
A.	A COMPOSITE OF THE MALE MARINE RECRUIT (1978-1983) -----	70
B.	ANALYSIS BY PERSONAL VARIABLES -----	70
C.	ANALYSIS BY ATTRITION VARIABLES -----	94
D.	SUMMARY OF ANALYSIS -----	125
VI.	CONCLUSION AND RECOMMENDATIONS -----	133
	APPENDIX A - Enlistment Documentation -----	145
	APPENDIX B - Percent of Male Nonprior Service Accessions Who Scored Below the 50th Percentile by Year of Accession and Level of Education -----	150
	APPENDIX C - Percent of Male Nonprior Service Accessions Entering the Marine Corps by Year of Accession, Education Level, and AFQT -----	152

APPENDIX D - Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps by Year Accession, Level of Education, Age, and Length of Service -----	159
LIST OF REFERENCES -----	166
INITIAL DISTRIBUTION LIST -----	168

LIST OF TABLES

1. Percent of Nonprior Service Accessions Who Are High School Graduates, Selected Fiscal Years, 1974-83 -----	34
2. Armed Forces Qualifications Test (AFQT) Categories by Percentile Score Range -----	38
3. Minimum Aptitude Standards for Enlistment of Males (without prior service) into the Marine Corps from 1951 to 1983 -----	39
4. Projected U.S. Population Aged 18 to 21, by Sex, and Selected Years, 1981-95 -----	51
5. Treatment of Secondary School Educational Credentials for Enlistment Purposes During FY 1983, by Service -----	55
6. Percent Attrition During First Three Years of Active Duty Among Male Nonprior Service Accessions (1973-79), by Level of Education and Service -----	67
7. Number of Male Nonprior Service Accessions Entering the Marine Corps by Year of Accession and Level of Education -----	71
8. Percentage Distribution of Male Nonprior Service Accessions Entering the Marine Corps by Year of Accession and Level of Education -----	74
9. Number and Percentage of Male Nonprior Service Accessions Who Entered the Marine Corps by Age and Year of Accession -----	76
10. Percent of Male Nonprior Service Accessions Who Scored Above the 50th Percentile by Year of Accession and Level of Education -----	78
11. Percent of Nonprior Service Accessions Entering the Marine Corps by Marital Status, Level of Education and Year of Accession -----	81
12. Percent of Male Nonprior Service Accessions Separated and Eligible to Reenlist by Year of Accession and AFQT -----	89

13.	Percent of Marine Corps Male Nonprior Service Accessions Separated and Eligible to Reenlist by Year of Accession, Level of Education, and AFQT -----	91
14.	Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by Level of Education and Length of Service -----	97
15.	Percent Attrition During First Two Years Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by Level of Education and AFQT Category -----	100
16.	Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by Level of Education, Year of Accession and Length of Service -----	102
17.	Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by Level of Education, Age and Two Year Length of Service -----	104
18.	Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by Cause of Attrition, and a Three-Year Service Length -----	108
19.	Percent Attrition Among Male Nonprior Service Accessions Who Entered the Marine Corps by Level of Education, Pay Grade at Time of Separation (or as of 31 March 1983), and Year of Accession -----	115
20.	Comparison of Data for Thesis Research and Data Maintained by DoD: Percent Attrition During First Three Years of Active Duty Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1980-82, by Level of Education -----	123
21.	Personal Descriptive Variables Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by High School Graduate, Non-High School Graduate, and Level of Education -----	127

22.	Performance Variables Among Male Nonprior Service Accessions Who Entered the Marine Corps between FY 1978-83, by High School Graduate, Non-High School Graduate, and Level of Education -----	129
23.	Percent of Male Nonprior Service Accessions Entering the Marine Corps by Year of Accession Who Are Considered High School Graduates -----	136
24.	Percent of Male Nonprior Service Accessions Entering the Marine Corps by Year of Accession, and a Modified High School Graduate Group -----	142

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I. INTRODUCTION

Do the Armed Services, particularly the Marine Corps, unduly limit their recruiting pool by eliminating--on the basis of outdated and inadequate educational standards--applicants who could successfully complete their initial enlistment? On the other hand, is the high school diploma, or its equivalent, still a useful predictor of a recruit's performance in the military, considering the many changes that have occurred over recent years in the secondary educational systems of the nation?

Even though the past year was an unprecedented "success" for the all-volunteer military and its recruiting force, previous experience provides a sobering reminder of the difficulties that can be inflicted by the economy and the uncounted problems that lie ahead. During fiscal year 1983, almost 92 percent of all new recruits in the Marine Corps were high school graduates, another 2.3 percent has some form of high school equivalency certificate. This is an astounding achievement for the Marine Corps recruiting effort, considering that only 75 percent of the military-age civilian population (18-23 years) has completed high school. Yet, only seven years ago, the annual proportion of high school graduates among new Marine recruits was a dismal 62 percent; and during the four previous years almost one out of every two new Marines was a high school dropout.

Many manpower planners believe that the past two or three years have marked the "golden age" of the all-volunteer military, with a combination of important factors in the social, economic, and political world all working in favor of attempts to build a solid first-term and career force. Many signs of the future, nevertheless, suggest that volunteer recruiting may slip suddenly from the "golden age" to an "ice age," as the supply of qualified applicants shrinks and the demand for technically competent enlistees swells. All indicators point to a possible shortage of "high quality" recruits in the years ahead, and the Marine Corps should be preparing now to refine its standards and consider new ways of expanding the pool of potentially qualified volunteers. One way of preparing for the future--as well as the present--is to address the questions posed above in a comprehensive and analytical manner.

This thesis presents new data on the military performance of persons who possess a wide variety of secondary and post-secondary educational credentials and then offers in the conclusion, a recommendation that may help the Marine Corps to come to grips with the questions raised above. Ultimately, these recommendations are intended to assist the Marine Corps in removing some of the controllable, yet "uncounted" problems that may lie ahead.

Such a proposal covers many facets, of which the effects on policy, practicality, and procedure are just a few. A

suggestion for a policy change here, or a proposal for a procedural variation there, would clearly have but short-term and long-term consequences of considerable magnitude. Therefore, a portion of this thesis, the Background, introduces the reader to certain Marine Corps idiosyncrasies. Formal recruiting procedures, the realities of recruiting, educational standards used for enlistment, and the current problems with educational credentials (relating to the way they are initially obtained) are presented in this section.

With the backdrop to the environment in place, along with a brief view of the particular situation in the Marine Corps, the next two chapters (Statement of the Problem, and Scope, Objective and Methodology) address the data resources, the specific research questions that are involved, and the comparative actions of the Armed Services (with emphasis on the Marine Corps) designed to maximize their effectiveness in selecting new recruits.

The Marine Corps defines 16 separate educational categories, including several "variations" of high school diploma, in its recruiting regulations. In addition, the Marine Corps (and two other Services) takes the various educational categories and then establishes minimum test score standards and other entrance requirements based on an estimate of the "value" of each educational variable as a predictor of an individual's performance in the military. For some largely unexplained reason, however, there is an utter

lack of consistency in the standards of the separate Armed Services and the way in which they treat applicants with identical credentials at the secondary school level. Yet, one must ask: If the Services draw from the same source of American youth to fill their ranks, why do they differ so much in how they assign applicants with the same educational credentials to either the high school graduate or nongraduate category? In this thesis, it is suggested that one set of definitions for high school graduates and nongraduates is both possible and desirable.

A proposal for resolving the "problem" of educational credentials is sought in the Analysis chapter. This chapter identifies the personal and performance variables that are commonly used to gauge "successful" service and then evaluates educational credentials (as defined by the Marine Corps) against these variables. Variables range from age, mean AFQT percentile, attrition, reenlistment eligibility, marital status, cause of separation, grade at separation, and other measures of performance and personal attributes. The analysis is done by separate fiscal year and the entire period of the data base (1978-83), holding constant the educational credentials that are currently recognized by the Marine Corps.

In the Conclusion, a recommendation is offered to pursue quality recruits through key variables that are found in some, but not all, of the educational credentials. Further new definitions for educational credentials--as they apply

to high school graduates and nongraduates--are proposed. A three-tier system is suggested for refining the current enlistment standards, along with a discussion of the problems and trade-offs that may be involved in pursuing high school "graduates" at the expense of other qualified persons at all educational levels.

II. BACKGROUND

A. FORMAL PROCESS FOR ENLISTING IN THE U.S. MARINE CORPS

Historically, the Marine Corps has filled its ranks almost exclusively with volunteers. During the Vietnam era it was necessary to use a limited draft, but the total number of conscripts during this period only amounted to an insignificant percent of all Marine recruits. Nonetheless, the Marine Corps has been an indirect beneficiary of the draft--offering an alternative form of service to young men who were draft-eligible but not attracted to the Army. With the advent of the All-Volunteer Force (AVF) in 1973, the Marine Corps lost the so-called "draft-motivated" enlistee and was compelled to compete even more with the other Military Services for its relatively small share of the manpower pool.

The all-volunteer era has brought with it many challenges for the military, not the least of which is the improved selection and classification of applicants. The Marine Corps has established various procedures and "gates" to ensure that new recruits are of the highest possible quality and will stand a reasonably good chance of completing their initial training. Applicant screening is accomplished through the

enlistment standards as contained in MCO P1100.74A¹, Military Personnel Procurement Manual, Volume (4), Enlisted Procurement. This order governs the entire quality control process and provides the basis upon which applicants may be disqualified either before or after enlistment. Applicants may be disqualified after enlistment, for example, if it is determined that they have lied on their enlistment application or failed to reveal certain necessary information (as determined through subsequent investigation). This section reviews the current enlistment standards as they apply to non-prior service applicants.

A Marine Corps recruiter initiates the screening process by conducting a preliminary interview with the applicant. This interview serves a dual purpose. First, information is obtained to determine if the applicant can qualify under the basic eligibility criteria. Second, the recruiter attempts to identify if there is any area in the applicant's personal history or background that might result in a fraudulent or erroneous enlistment. Areas of interest to the recruiter include:

- Age of Applicant.
- Citizenship.

¹In various instances throughout this thesis, reference is made to regulations promulgated by Headquarters, U.S. Marine Corps. These regulations are cited by number, as shown here, so that the reader may find them (if desired) in the appropriate manual.

- Physical qualifications.
- Dependents.
- Moral character.
- The applicant's level of education.

A brief explanation of these areas is provided below.

Age of the Applicant (MCO P1100.74A):

An applicant who requires recruit training may not be younger than 17 years nor older than 28 years. Applicants who are 17 years old require the consent of their parents (or guardian) for enlistment. The Commanding Generals of the Marine Corps Recruit Depots may waive the maximum age limitation when it can be determined that the applicant can satisfactorily complete recruit training and participate in the physical rigors associated with service in the Marine Corps.

The applicant's age is verified by a certificate of birth, a passport, an official government transcript, or a sworn affidavit from a parent (when supported by school or hospital records).

Citizenship (MCO P1100.74A):

The applicant for enlistment must be either of the following:

- A citizen of the United States; or
- An alien who has entered the United States on a permanent residence visa, established a bonafide residence, and has a home of record in the United States.

Physical Qualifications (MCO P1100.74A):

The primary examination of an applicant's physical qualifications for enlistment is conducted at the Military Entrance Processing Station (MEPS). However, the recruiter is required to provide a pre-MEPS physical screening of the applicant. The recruiter measures the applicant's height and weight. In addition, the recruiter questions the applicant as to his or her physical condition and attempts to identify any physical disabilities that would disqualify the applicant from military service. The applicant is also advised about any documents concerning previous surgery or other corrective medical treatments that may be required by the MEPS.

Dependents (MCO P1100.74A):

Applicants who have dependent children are generally required to obtain a waiver before they are allowed to enlist. Applicants whose only dependent is a spouse are not required to have "dependent waivers."

Moral Character (MCO P1100.74A):

The term "moral character" is used in reference to those areas of personal conduct, individual traits, or behavioral characteristics that may indicate whether an individual will conform to the rules and regulations of military service. The recruiter typically attempts to identify information such as the following when examining the background material provided by the applicant:

- Has applicant been convicted of a felony offense or has received an adverse juvenile adjudication?
- Are there charges pending?
- Is the applicant under civil restraint or otherwise serving a sentence?
- Is the request for enlistment an alternative to a judicial proceedings?
- Does the applicant have active or chronic venereal disease?
- Has the applicant admitted to participation in homosexual acts or possess homosexual tendencies?
- Is there a history of alcohol or drug abuse?

Applicant's Level of Education (MCO P1100.74A):

The minimum educational standard for enlistment in the Marine Corps is scholastic attendance through the tenth grade. Applicants in this category are required to provide the recruiter with official correspondence (original forms) from the school attended, certifying the level of education attained, or a properly authenticated copy of the individual's high school transcript.

Applicants who attended high school through the twelfth grade and can present either a letter certifying completion, a standard high school diploma, or a certificate of attendance or completion, are treated as high school graduates. Non-high school graduates who successfully complete one or more years of college-level work, regardless of the level of high school, are considered as high school graduates. In such instances the individual will present a copy of college

transcripts which must reflect a minimum average of "C" for a minimum of 30 semester or 45 quarter hours. Applicants who can provide documentation demonstrating completion of a high school correspondence home study course accredited by the National Home Study Council are also treated as high school graduates.

Applicants who possess General Educational Development (GED) certificates of high school equivalency are considered non-high school graduates for recruiting purposes.

In each of these cases, the recruiter will require that the applicant present a diploma, transcript, certificate, or official school correspondence verifying that the applicant has completed the claimed level of education. (See Appendix A for an example of a request to a school for the verification of an applicant's educational level.)

In conjunction with the various educational levels that are allowed for enlistment, each applicant must meet certain minimum aptitude scores on the AFQT and General Technical (GT) composites. (Section C of this chapter presents a more detailed discussion of education and aptitude standards.)

1. The Enlistment Interview Process

An interview normally occurs before any formal enlistment procedures are initiated. Recruiters refer to this as the "preenlistment interview" or "prescreening process." After an applicant's basic eligibility can be determined, a subsequent interview is held to set in motion the

formal enlistment screening process and to match the potential recruit with an available occupational specialty.

2. Preenlistment interview

There is nothing formally written concerning the specific steps that recruiters should follow in conducting the preenlistment interview. Each recruiter develops his or her own technique to ensure that all topics are adequately covered and all necessary information is obtained. (One recruiting substation that was contacted in connection with this research uses the form in Appendix A.) This interview can be conducted in any location that is conducive for discussion and comfortable for both the applicant and the recruiter; however, the majority of preenlistment interviews are held in the recruiter's office or in the applicant's home. If the recruiter is satisfied that the applicant can probably meet the medical, educational, and moral standards for enlistment--and also is convinced that the applicant sincerely desires to be a Marine--the Enlisted Screening Test (EST) is administered. The EST, available to all Marine recruiters, is an abbreviated version of the Armed Forces Qualification Test (AFQT) and provides a preview of the applicant's probable performance on the actual enlistment test. The EST is a two-part test; evaluating verbal ability (50 questions concerning word comprehension to be answered in 15 minutes) and arithmetic reasoning (40 math problems in 35 minutes). A passing score requires

approximately half of each part to be correct (27 of 50 and 19 of 40). An applicant who obtains a converted (percentile) score of 31 usually continues with the enlistment interview. A score of less than 31 will generally terminate the applicant's enlistment processing. If the preliminary interview and the abbreviated aptitude test are satisfactorily completed, the recruiter will commence with or schedule, the formal enlistment interview.

3. Enlistment interview

This phase usually starts with the "sales presentation." Slides and movies may be shown, brochures may be distributed. The recruiter may tell the applicant about the history and traditions of the Marine Corps as well as the many opportunities available to the qualified recruit. DD Form 1966 (Application for Enlistment-Armed Forces of the United States) is initiated, which addresses again the personal, moral, behavioral, and physical condition of the applicant, including questions on any prior drug involvement. The recruiter explains to the applicant the penalties for withholding information that may result in a fraudulent or erroneous enlistment. An applicant may be refused enlistment even though he or she is more than qualified, if, in the opinion of the recruiter, the individual lacks sincerity about being a Marine or appears as though he or she "just wouldn't make a good Marine." Additionally, the applicant will be told that he or she is subject to an Entrance

National Agency Check (ENTNAC), and the recruiter will attempt to verify key elements of the information provided by the applicant.

4. Testing

An ASVAB is then given by a representative of the Military Enlistment Processing Command (MEPCOM). The site for administration of the ASVAB is a location that is accessible for recruiters (all services) but not under the recruiter's operational control. Transportation to and from the testing site is provided by the respective recruiter. This could include transportation to and from the applicant's residence. A physical examination at the MEPS is also scheduled at this time. Prior to the physical examination, the applicant is informed of the ASVAB scores and whether he or she was successful in achieving appropriate scores for the desired program or occupation. (An example of the ASVAB test scores that were recorded by MEPCOM and forwarded to the recruiter appears in Appendix A.) Upon completing the physical examination, the qualified applicant is sworn in and asked to sign DD Form 4 (Enlistment or Reenlistment Document-Armed Forces of the United States). The qualified applicant is now enlisted and a member of the Marine Corps. The new recruit may report directly to basic training or postpone

active duty for up to one year by entering the Delayed Entry Program (DEP).²

B. RECRUITING REALITIES

The success or failure of a recruiter is measured by his or her "productivity"--that is, how many contracts (applicants) the recruiter processes each month. In addition, recruiter productivity is also affected by the number of applicants who are fraudulently enlisted (because of recruiter malpractice) and the number of applicants who finish recruit training.

Recruiters are required to process an established number of new enlistment contracts each month. These so-called recruiter "quotas" are set for each Marine Corps District. There are usually separate quotas for females, males (both prior service and nonprior service), reservists, and persons in special enlistment programs. Each District has responsibility for the recruiting stations within its jurisdiction. Recruiting stations, in turn, may be composed of several recruiting substations. One recruiting substation that was visited in connection with this research had the following quota structure for non-prior service "contracts" (applicants who are actually enlisted):

²After being sworn into the Marine Corps, the recruit can report directly to recruit training (boot camp). Another option is to delay reporting for active duty by as many as 365 days (through the Delayed Entry Program or "DEP").

Headquarters Marine Corps to the District:
1.97 contracts per recruiter per month.

District Headquarters to the Recruiting Station:
2.25 contracts per recruiter per month.

Recruiting Station to the Recruiting Substation:
3.00 contracts per recruiter per month.

The increase in the number of contracts is intended to help the Marine Corps meet its overall enlistment goals. If some recruiters do not "make quota," other recruiters can be directed to process more contracts to ensure that the total enlistment goals are reached on a Marine Corps level.

During 1983, the Marine Corps imposed on its recruiters that at least three out of every four new recruits be a high school graduate. In addition, no more than 10 percent of the new recruits in 1983 could have test scores in AFQT Category IV. (Section C of this Background chapter discusses the definitions of "high school graduate" and the minimum AFQT/GT scores for enlistment.)

Recruiter productivity is monitored carefully by each echelon in the recruiting hierarchy. Contracts written are monitored and an "alarm" is sounded when quotas are not achieved. However, recruiting is cyclic, roughly corresponding to the academic school year. For example, from October to May, the proportion of high school graduates among new recruits could be as low as 35 percent; yet, during June through September, the proportion of high school graduates could be as high as 98 percent. There is also a

cyclical pattern in the quantity of applicants who are "available" for enlistment. Generally, from October through May fewer contracts are written, while June through September is usually the most productive period.

In another example, each recruiting station knows how many production recruiters³ it has and how many contracts must be written monthly and yearly by each. With an annual floor of 75 percent set for high school graduates, it is possible for a recruiting station to allow as many non-high school graduates to enlist (assuming other qualifications are met) as are available, while, during other months, no non-high school graduates might be accepted. The percentage of high school graduates obtained by each recruiter is counted when the enlistee is sent (or "shipped") to boot camp, not when the applicant enlists in the DEP. The majority of official recruiting figures, quotas, and percentages are tabulated on the basis of the final "shipping" statistics.

Several other "realities" of the recruiting process may not be evident from an examination of the formal procedures. Some examples include:

³A production recruiter is a Marine trained in the process and procedures of enlisting eligible youths into the Marine Corps. At a recruiting station, there could be clerical, supply, or support personnel who by virtue of their assignment to the station might be thought of as recruiters, when in fact they are not. Production recruiters have the primary responsibility of enlisting qualified applicants.

1. Treatment of Students About to Graduate

If an applicant is in the 12th grade and plans to graduate after enlisting in the Marine Corps (and meets all other enlistment criteria), he or she is accepted as a "student" who has completed the 11th grade. Upon graduation and presentation of a bonafide diploma to the recruiter, the enlistee is reclassified as a high school graduate.

2. Verification of the Applicant's Education

Even though each applicant's educational level must be verified (including, in some cases, a letter from the educator), the Marine Corps uses a "Saver Report." This report verifies 20 percent of the applicants' educational levels stated during the enlistment process regardless of whatever other certification is submitted. The 20-percent selection is accomplished at the recruiting station level. Conflicts between the information found from the Saver Report and the individual's educational level claimed during the enlistment process is usually considered to be a cause for investigation.

If the applicant presents a diploma that appears valid, and the recruiter has no reason to believe it is false, the document is ordinarily accepted as verification of the educational level claimed by the applicant. On the other hand, certificates of attendance, completion, or other forms of educational attainment must have a letter of verification from the educator.

3. Recruiter Productivity and Pressure to "Make Quota"

The first month a recruiter is on recruiting duty, he or she watches and observes the production recruiters at their station. The recruiter is not considered a production recruiter at this time. The next six months is a probationary period during which the recruiter is responsible for production. If the recruiter is not "making quota," he or she is dismissed from recruiting and reassigned elsewhere in the Marine Corps. Termination of the recruiting assignment during the probationary period supposedly does not affect the individual's career. However, if the recruiter is relieved from the recruiting assignment for any reason (including productivity) after the first six months, there may be some detrimental consequences for the individual's career development.

The recruiting process is ostensibly governed by Marine Corps regulations and official orders. Nevertheless, the regulations are sufficiently imprecise so that a "seasoned" recruiter, familiar with the ambiguous requirements and areas for discretionary judgment, can "beat the system" and enlist an applicant who would probably be disqualified under a formal interpretation of the regulations. Needless to say, shortcuts taken in the enlistment process involve some risk for the recruiter. Waivers can be obtained for applicants who appear to be good risks and have reasonably solid credentials. The waiver process, however, may take

more time than a recruiter is willing or able to tolerate. And the final action may not be favorable. So, recruiting malpractice may (and does) occur, especially among those recruiters who feel pressured to produce or "make quota" in an unfavorable recruiting environment.

If a fraudulent enlistment is detected by the higher command, the new recruit may be discharged and punitive action may be taken against the recruiter. Probably the most frequent reason given for shortcuts or fraudulence in recruiting is the fear by the recruiter of not meeting the established quota, along with the possible ramifications associated with failure and reassignment. With the very favorable recruiting market in the past few years, and the current policy on waivers, fraudulent enlistment and recruiter malpractice have probably lessened somewhat.

4. Acceptance of Applicants for Special Programs

The Marine Corps has a few special enlistment programs, but it generally prefers enlistees who are considered "open contracts." An open contract is an enlistee who does not have any preference for a specific military occupational specialty (MOS) when applying for enlistment. Unless the applicant mentions a specific program that he or she prefers, the recruiter usually will not even mention the various special programs, and will attempt to obtain an open contract. If, however, a specific MOS is desired by the applicant, he or she must be able to qualify for the program in

addition to the basic requirements for enlistment. Most special programs have specific standards for minimum scores on test composites from the ASVAB.

Quotas for the few special programs are distributed to the Districts, and the Districts then forward the quotas to the Recruiting Stations. After the ASVAB scores are received by the recruiter and verified to be sufficient for the special program, Annex A of DD Form 4 (Enlistment Contract) is prepared. The applicant is given one of the control numbers representing a quota for that specific enlistment program, and Annex A is signed. The so-called "guaranteed assignment" is legally binding once the applicant is sworn in at the MEPS. The new recruit can be removed from this special program if it is later determined that the enlistee was erroneously or fraudulently enlisted; or the enlistee may be disqualified for some other reason resulting from his or her own actions.

C. EDUCATIONAL STANDARDS FOR ENLISTMENT IN THE MARINE CORPS

The Marine Corps has traditionally placed strong emphasis on the enlistment of persons who have completed high school. It is currently acknowledged that "possession of a high school diploma is the best single measure of a person's potential for adapting to life in the military" (Department of Defense, 1978). Male enlistees who have not completed high school (at the time of entry) are about twice as likely

as are high school graduates to leave the military before finishing their full first-term of active duty (Eitelberg, undated). In addition, non-high school graduates typically experience more disciplinary actions, require more administrative support, and need additional attention in basic training (Department of Defense, 1974 and GAO, 1976).

It is not surprising, therefore, that recruiting policy has been directed toward enlisting those applicants with high school diplomas. At the same time, the diploma has been a principal measure for evaluating recruiting success, especially during the existence of the AVF. As shown in Table 1 below, the Marine Corps has been relatively successful--especially in recent years--in enlisting its "fair share" of high school graduates. The proportion of Marine Corps' non-prior service accessions who are classified as high school graduates has increased from fiscal 1974 (50 percent) through 1983 (92 percent) by 42 percentage points. While this growth in "quality" appears promising (in comparison with the other Services and DoD as a whole), FY 1980 and FY 1983 are the only years that the Marine Corps' proportion has been relatively greater than the proportion for all Services combined. What is probably the most notable aspect of this table (from a Marine Corps perspective) is the enormous leap in the proportion of accessions who are considered high school graduates; between the early and mid-1970s, and then, again, between the late 1970s and the early 1980s.

Table 1

Percent of Nonprior Service Accessions Who Are
High School Graduates*, Selected
Fiscal Years, 1974-83

Service	Fiscal Year					
	1974	1976	1980	1981	1982	1983
Army	50	59	54	80	86	88
Navy	64	77	75	76	70	91
Marine Corps	50	62	78	80	82	92
Air Force	92	89	83	88	94	98
DoD	61	69	68	81	86	91

Source: C. W. Weinberger, Military Manpower Task Force, A Report to the President on the Status and Prospects of the All-Volunteer Force, (Washington D.C.: Office of the Secretary of Defense, November 1982), p. II-4.

*"High School Graduate" includes those with post-secondary education. Excludes non-diploma graduates with high school equivalency certificates.

Educational categories for applicants were originally established to differentiate between high school graduates (who has a diploma) and those who were high school dropouts or nongraduates (and did not possess a diploma). The high school diploma was believed to be the "great discriminator" of those who succeeded in the military and those who did not. Persons who did not have diplomas were consistently less likely to finish their first terms of active duty and more likely to have disciplinary problems. Eventually, with the

broadening of the definition of "graduate" and "diploma"--coupled with growth in the various state certificates, degrees, and equivalency options available to students--the original categories (based primarily on "diplomas") became obsolete. The several educational credentials and levels of education that currently appear in the Marine Corps regulations are outlined below according to the graduate and non-graduate categories established for applicants.

1. Persons Considered Non-High School Graduates (MCO P1080.20)

- Completes the 10th grade but was not issued a diploma, certificate of completion/attendance or letter. Minimal educational requirement for enlistment.
- Completes the 11th grade but was not issued a diploma, certificate of completion/attendance or letter.
- Completes 12 years education but was denied or not issued a diploma, certificate of completion/attendance or letter.
- Does not have a high school diploma, but has a certificate received from a primary, elementary, intermediate or junior high school.
- Has a certificate of High School Equivalency (such as the GED).

2. Persons Considered High School Graduates (MCO P1080.20)

- Has received a high school diploma.
- Holds a Certificate of Completion. Attends high school through the 12th grade and possesses a certificate of completion (occupational or vocational program).
- Holds a Certificate of Attendance. Attends high school through the 12th grade and possesses a certificate of attendance (occupational or vocational program).

- Completes the 12th grade and all course requirements for high school graduation, received a certificate indicating attendance but was not awarded a diploma or did not pass the comprehensive tests.
- Holds a certificate of successful completion of a high school correspondence home study program which is accredited by the Accrediting Commission of the National Home Study Council.
- Is a non-high school graduate who has successfully completed 1 or more years of creditable college level study with a minimum grade average of "C" for a minimum of 30 semester or 45 quarter hours.
- Holds a continuation of high school diploma issued by a local school system and is recognized by the State Board of Education.
- Holds a First Year College Level of Education Certificate Equivalency.
- Holds an Associate of Arts Degree.
- Holds a Professional Nursing Diploma.
- Holds a Baccalaureate Degree.
- Holds a Master's Degree.
- Holds a Doctoral Degree.

With these educational credentials and their placement into a high school graduate or non-high school graduate group, another evaluator for measuring the potential of an applicant was the Armed Services Vocational Aptitude Battery. The ASVAB, used DoD-wide for aptitude testing since January 1976, predicts the "performance" of recruits prior to enlistment. These two selection criteria, educational levels and ASVAB scores, are established as quality indicators (Cheatham, June 1978). Simply stated, aptitude tests evaluate the ability to assimilate military training while

educational level is used as a gauge for social adjustment (Toomepuu, April 1981),

The ASVAB is composed of ten subtests of which four of the subtest scores (word knowledge, paragraph comprehension, arithmetic reasoning, and numerical operations) are combined to produce the Armed Forces Qualification Test (AFQT) score. "The AFQT was established for the purpose of both (a) measuring the examinee's general mental ability to absorb military training within a reasonable length of time, so as to eliminate those who do not possess such ability; and (b) providing a uniform measure of the examinee's potential general usefulness in the service, if qualified on the tests" (Eitelberg, November 1983). It is generally accepted that the AFQT is a useful screening device and a valid predictor of training performance. AFQT scores have been grouped into five categories, as shown in Table 2. Applicants who score in Category I or II are above average in trainability; Category III, average; Category IV, below average; and Category V, not eligible for enlistment (Department of Defense, March 1982). Aggregate AFQT scores are monitored and changed for various reasons (they include but are not limited to): ensuring that manpower goals can be met; that there is a general population distribution of recruits; training time, and cost trade-offs are maximized; and job satisfaction for the individual can be achieved. Higher minimum aptitude scores/standards are required for

non-high school graduates so that the "best" from a less preferred group of applicants will be accepted for enlistment.

Table 2

Armed Forces Qualification Test (AFQT) Categories
by Percentile Score Range

AFQT Category	Percentile Score Range
I	93 - 100
II	65 - 92
III	31 - 64
IV	10 - 30
V	1 - 9

Source: Department of Defense, Profile of American Youth (Washington D.C.: Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics, March 1982) p. 7.

Table 3 presents a chronological review of the minimum aptitude standards for enlistment in the Marine Corps. It emphasizes the differential aptitude requirements established on the basis of high school graduate status. The General-Technical Aptitude Area score (GT) is computed from the Verbal and Arithmetic Reasoning subtests of the ASVAB and introduces further refinements in the quest to seek "the best" recruit from the non-high school applicant.

The Marine Corps currently uses multiple aptitude standards in determining basic eligibility. High school graduates seeking enlistment are currently required to achieve a score of at least 21 on the AFQT and 80 of the General-Technical Composite. The required AFQT score is

generally lower for the high school graduate than for non-high school graduates. Nongraduates have higher AFQT requirements in the attempt to allow only the "best" of what has been identified as a group of enlistees who have a high attrition rate. By allowing non-high school graduates with higher AFQT scores to enlist, or perhaps, lowering the AFQT requirements for a group that is treated as non-high school graduates, the Marine Corps will allow more "good" people (expand the pool of prospective applicants) to enlist that are otherwise barred.

Table 3

Minimum Aptitude Standards for Enlistment
of Males (Without Prior Service) into the
Marine Corps from 1951 to 1983

Effective Period	Minimum Aptitude Standards
July 1951 - March 1956	----Percentile score of 10 on AFQT.
April 1956 - June 1967	----Percentile score of 21 on AFQT.
July 1957 - Nov. 1958	----Percentile score of 25 on AFQT.
Dec. 1958 - Dec. 1959	----Percentile score of 28 on AFQT.
Jan. 1960 - May 1962	----Percentile score of 25 on AFQT.
June 1962 - July 1965	----AFQT 31; or AFQT 21 and standard score of ≥ 90 in three ABQ aptitude areas.
Aug. 1965 - Oct. 1965	----AFQT 31; or AFQT 21 <u>and</u> GT ≥ 80 <u>and</u> standard scores <u>if</u> ≥ 90 in two additional AQB aptitude areas.

Table 3 (continued)

Effective Period	Minimum Aptitude Standards
Nov. 1965 - Dec. 1966	<p>----<u>Education Differential Introduced</u></p> <p>(a) HSG with AFQT 10;</p> <p>(b) NHSG with AFQT 31; or NHSG with AFQT 16-30 and GT \geq 80 and standard scores of \geq 90 in two additional AGB aptitude areas.</p>
Jan. 1967 - June 1971	<p>----(a) HSG with AFQT 10;</p> <p>(b) NHSG with AFQT 31; or NHSG with AFQT 16-30 and a standard score of \geq 90 in one AQB aptitude area; or NHSG AFQT 10-15 and standard score of \geq 90 in AQB aptitude areas.</p>
July 1971 - Jan. 1972	<p>----(a) HSG with AFQT 10;</p> <p>(b) NHSG with AFQT 16 and a standard score of \geq 90 in one AQB aptitude area; or NHSG with AFQT 10 and standard score of \geq 90 in two AQB aptitude areas. All applicants with AFQT 10-15 must have an Odds for Effectiveness (OFE) standard score of \geq 50. In addition, 17 year olds must be HSG or have AFQT \geq 50.</p>
Feb. 1972 - Jan. 1973	<p>----(a) HSG with AFQT 21 and a standard score of \geq 90 in one AQB aptitude area; or HSG with AFQT 10-20 and GT \geq 80 and standard scores of \geq 90 in two AQB aptitude areas;</p> <p>(b) NHSG with AFQT 21 and a standard score of \geq 90 in one AQB aptitude area. The OFE requirements and the requirements for 17 year olds remained the same.</p>
Feb. 1973 - March 1973	<p>----AFQT Category IV acceptable only for 2-year enlistments.</p>

Table 3 (continued)

Effective Period	Minimum Aptitude Standards
April 1973 - Aug. 1973----	Percentile score of 21 on AFQT. All accessions within the AFQT ranges of 21-30 and 31-49 were required to have a GT \geq 80 and standard scores of \geq 90 in two additional ASVAB-3 aptitude areas.
Aug. 1973 - Sept. 1973----	GT and aptitude area requirements were dropped for HSG within the AFQT range of 31-49.
Sept. 1973 - Oct. 1973----	17-year old NHSGs were acceptable within the AFQT range of 40-49 provided they had a GT \geq 80 and standard scores of \geq 90 in two additional ASVAB-3 aptitude areas. NHSG with AFQT \geq 50 had no additional requirements.
Oct. 1973 - Dec. 1973 ----	A standard score of 80 on Skilled Technical (ST) subtest of ACB-73 was acceptable in lieu of GT.
Dec. 1973 - Aug. 1974 ----	The requirement of a standard score \geq 80 on ST or GT was dropped for NHSG within the AFQT 31-49 range; for all HSG accessions within the AFQT 21-30 range, and for 17-year old NHSG with the AFQT 40-49 range.
Aug. 1974 - Feb. 1975 ----	The requirement for 2 aptitude areas \geq 90 for 18 year old and older NHSGs scoring AFQT 31-49 was removed.
Feb. 1975 - March 1975----	AFQT 21 and GT \geq 95 for all applicants.
March 1975 - Aug. 1975----	(a) HSG with AFQT and GT \geq 90; (b) NHSG with AFQT 31 and GT \geq 95.
Aug. 1975 - Jan. 1976 ----	(a) HSG with AFQT 21 and GT \geq 90' (b) NHSG with AFQT 31 and GT \geq 95.

Table 3 (continued)

Effective Period	Minimum Aptitude Standards
Jan. 1976 - Oct. 1981 ----	(a) High school diploma graduates (HSDG) with AFQT 21 <u>and</u> GT \geq 80; (b) NHSG with AFQT 21 <u>and</u> GT \geq 95.
Oct. 1981 - May 1982 ----	(a) HSDG with AFQT 21 <u>and</u> GT \geq 80; (b) NHSG with AFQT 31 <u>and</u> GT \geq 95.
May 1982 - Oct. 1982 ----	(a) HSDG with AFQT 21 <u>and</u> GT \geq 80; (b) NSHG with AFQT 31 <u>and</u> GT \geq 100.
Nov. 1982 - Present ----	(a) HSDG with AFQT 21 <u>and</u> GT \geq 80; (b) NHSG with AFQT 31 <u>and</u> GT \geq 105.

Source: M. J. Eitelberg, et al., Screening for Service: Aptitude and Education Criteria for Military Entry, (Alexandria, Va.: Human Resources Research Organization, November 1983), (Draft), p. 4-25.

D. THE CURRENT PROBLEM OF EDUCATIONAL CREDENTIALS⁴

There currently exists a multitude of diplomas, certificates, and other secondary educational credentials that must be evaluated by the recruiter while processing prospective applicants. The recruiter must determine whether these credentials are acceptable, whether they show an applicant is a graduate or nongraduate, and, depending on the type of credential, whether they require some sort of verification.

⁴This section draws heavily upon the research and work of Janice H. Laurence, Research Scientist, HumPRO. Her essays, papers, and writings were the primary source of reference in the preparation of this section.

The educational policies, accreditation procedures, and definitions of the secondary credentials vary between states, between school districts in the same states, and between schools within the same districts (Laurence, April 1983). It is thus hard to conclude, for example, that a high school diploma in the North is the same as a high school diploma in the South or in some other section of the country. Neither can one assume that certificates of completion or attendance, or competency tests have common standards applicable in, say, the East or the West. Additionally, the question must be raised: where does the nonaccredited, private secondary school graduate "fit" within the recruiting policy and definitions of the Marine Corps, given what is known about the broad differences in the "quality" of credentials? Private schools are not necessarily required to meet the same standards, as public schools, which must comply with established "accreditation" regulations (although it is assumed that private schools are equally regulated). The number and specific type or location of high schools that are nonaccredited is difficult to determine since state departments of education do not necessarily keep files on "unrecognized" schools. Christian schools (many of which are fundamentalist Baptist) are among the nonaccredited schools. Two states, Arizona and Louisiana, allow parents to provide "accredited" home education. It is possible in these states,

then, that a prospective recruit may never even have attended "real" school.

1. High School Diploma, Public Schools

In the 1982-83 school year, there were 15,626 operating public school districts and 2,643,349 public high school graduates in the United States (Laurence, September 1983). The high school diploma is generally obtained by spending educational years 9, 10, 11, and 12 in a traditional classroom. The high school diploma holder represents the largest group of enlistees sought and recruited by the Marine Corps. Yet, requirements for a high school diploma are usually expressed in terms of attendance, credits, and "competencies." Within the sphere of attendance, credits, and competencies, specific prerequisites and academic quality can vary from state to state and school to school.

For example, the states of Idaho and New Mexico certify all diplomas with seals of competency. An Ohio school district grants a regular diploma with distinction and a diploma of completion. A California school district has a diploma system that mandates essential skills and competencies. A New York school district provides diplomas with special "endorsements." A school in Montana offers a regular diploma, an honors diploma, and a non-diploma certificate. A school district in Michigan offers no "regular" diploma other than "college preparatory," "vocational," and "general studies" diplomas. A rural high school in Missouri

gives out four different diplomas, including a "special education" variety for those who must have certain graduation requirements waived because of a handicap, and a "vocational" diploma for students who want to work with tools and technology. And an Iowa school district offers diplomas and certificates of attendance (for students who complete at least 32 of the required 40 units but fail to graduate) (Human Resources Research Organization, February 1982).

With the perception that the quality of public education is deteriorating, competency testing has emerged in approximately 36 states. However, only 20 states currently require that a student first pass a competency test in order to receive a diploma. The intention of states using competency testing is generally to eliminate the practice by schools of awarding grades and diplomas based primarily on attendance or "passing the student along."

2. Private Schools

In school year 1980-81, private schools, accounted for approximately 20 percent of elementary and secondary schools, and roughly 10 percent of high school graduates had attended such schools. The Northwest region of the country has the highest percentage of non-public school graduates (at 14 percent), while the North Central region has the lowest percentage (at 9 percent). Among the nation's non-public schools, 82 percent are religiously affiliated. Catholic schools account for the largest proportion (63

percent) of private school enrollment, followed by unaffiliated private schools (16 percent). Information about additional church affiliations shows the enrollment rankings for church-related schools to be: 1) Catholic; 2) Baptist; 3) Lutheran; 4) Christian; 5) Jewish; 6) Seventh-Day Adventist; 7) Episcopal (Laurence, September 1983).

3. Nonaccredited High Schools

There are instances where diplomas, while awarded on the basis of fulfilling more or less "traditional" requirements, are not accredited by the state. Fundamentalist church schools are a growing and vocal segment of nonaccredited schools. Christian schools are generally founded by evangelical or fundamentalist churches in order to provide an education compatible with Church teachings. Many of these schools have the external features of traditional public high schools. There is, however, an integration of scripture and secular course content that makes these schools quite different from their public school counterparts (Laurence, August 1983).

4. Certificates of Attendance and Completion

Those who meet all graduation requirements but fail to achieve a passing score on a competency test usually receive one of these two certificates.

Vocational and technical programs may also be available in some schools. Such programs may lead to a high school diploma--but they are obviously different from the

traditional or "academic" approach. Work apprenticeship and community service may also account for a portion of the required credit for a high school diploma in some schools.

5. Correspondence School Diplomas and Certificates

Another category that may be treated as a high school graduate is the individual who obtained a "diploma" from a correspondence course of study accredited by the National Home Study Council (NHSC).

An example of a NHSC-accredited correspondence school is the American School. This school awards approximately 3,000 diplomas a year. Most of their students are between the ages of 20 and 30. A problem with all school programs that are not accredited or not recognized is that very little is known about them. Public review and formal declaration of standards are generally unknown. It is worth mentioning that correspondence schools differ sharply in attendance requirements and the social experiences of its students. A diploma can be obtained in a relatively short period of time in this manner, compared with the years of attendance required for the traditional high school diploma.

6. General Educational Development (GED) Certificate

The GED, the most widely known certificate of high school equivalency, is usually obtained through "out-of-school" participation. Persons who seek to gain a GED are required to take a test consisting of five subtests that cover writing skills, social studies, science, reading

skills, and mathematics. Each state sets its own minimum scores for passing. A successful score must be achieved on all five subtests in order to receive this certificate of equivalency. While all states issue a credential on the basis of the GED tests, the actual title of the credential varies from state to state. In 1981, a total of 528,223 individuals met state GED score requirements. The number of actual credentials issued that year was 515,149. The average number of school years completed by 1981 GED test takers was 9.9, and the average age of the individuals who took the test was 25. In the 1979-80 school year, GED recipients represented 14.9 percent of all persons who completed public high school.

7. Adult Education

Adult education represents another means by which an individual can earn a high school credential. "In 1981 approximately 53,000 persons, or 2.4 percent of adult education participants, obtained a high school diploma. The Department of Education reports that, on the average, each state has 635 different agencies, institutions, and organizations providing adult education." Some attempt is made in adult education programs to recreate the "typical" high school program. Often, the only difference between the adult program and the high school program is that the adult program is conducted in the evenings (since many participants have families and daytime jobs). Some programs award

credentials that are partially based on credits earned for experimental learning or some other performance (Laurence, September 1983).

There are many secondary school-level credentials available and ways to acquire them. Even though there are a multitude of methods to obtain an alternative or "non-traditional" educational credential, the majority of young men and women nationwide have credentials from the "traditional" high school system. Since the adoption of a policy by the Marine Corps aimed at recruiting high school graduates, attention by recruiters and administrators alike to other pools of enlistees has been quite limited. However, the likelihood is great, with the relatively recent expansion in the availability of alternative credentials, that the Marine Corps will be seeing individuals with a various assortment of secondary school documents over the coming years.

III. STATEMENT OF THE PROBLEM

The military's task in screening potential recruits is complicated by a variety of factors. It is complicated by the fact that (a) the available manpower pool is currently declining; (b) young men and women who never held a "permanent" full-time job in order to establish competency and proficiency levels are being sought for duty under arms; (c) there is ambiguity, yet great dependency, in a small set of indicators of potential performance; and (d) there is a lack of a commonality among the services in their entrance standards. These factors are considered in identifying and formulating the problem for this research.

The declining number of persons in the military's primary manpower pool has been well documented. As shown in Table 4, there will be 24 percent fewer persons between the ages of 18 and 21--the usual age at which an individual joins the military--by the year 1995. There is a great deal of concern in some circles concerning the effect this "birth dearth" will have on the capabilities of the Armed Forces. Special concern surrounds the potential manpower shortfalls that may occur if the military maintains all-volunteer recruitment. As the size of the population becomes continually smaller during the 1980s, the task of

recruiting enough qualified young men and women will grow progressively more difficult.

Table 4

Projected U.S. Population Aged 18 to 21,
by Sex and Selected Years, 1981-95

Number in Thousands								
Sex	1981	1983	1985	1987	1989	1991	1993	1995
Male	8,618	8,356	7,821	7,356	7,404	7,197	6,702	6,608
Female	8,401	8,142	7,621	7,164	7,197	6,984	6,495	6,386
Total	17,019	16,498	15,442	14,520	14,601	14,181	13,197	12,994

Source: M. Binkin, and M. J. Eitelberg, Blacks and the Military, (Washington, D. C.: The Brookings Institution, 1982) p. 121.

In addition, this country's economic condition is another factor that will assuredly affect the potential quantity of volunteers for military service. Obviously, the extent to which a change in the "pool" of prospective enlistees will cause difficulty in recruiting depends upon how many qualified applicants choose military service over civilian employment. The popular perception of the military as an "employer of last resort," some say, was substantiated in dramatic fashion during the recent recession. The very opposite result--a recruiting drought and exodus of skilled personnel from the military--these same observers note, may occur if the nation moves to a new period of economic prosperity.

It is beyond the scope of this thesis to discuss unemployment elasticities and youth unemployment rates (which would undoubtedly have some effect on the numerical strength of the 18-21 year old pool of prospective applicants for military service). Suffice it to say, as employment conditions improve and the unemployment rates decline, difficulties in meeting enlistment goals should be expected.

The decreasing number of prospective enlistees and improvements in the nation's economy are not the only conditions that will affect recruiting within the all-volunteer framework. Other factors that could influence volunteer recruiting include: strong Congressional pressure on the Department of Defense to develop empirical and analytical processes for standardizing the requirements for enlistment, relative levels of military and civilian wages, enlistment incentives, the public's attitude toward military service, and the services' Congressionally imposed end-strengths. These influences are, for the most part, beyond the control of the Military Services. It is therefore important that the Services place increasing attention on the processes, policies, and standards for which applicants are selected or rejected--and, especially, on those areas which they can control.

The Armed Services agree that possession of a high school diploma is one of the foremost selection variables

for enlistment.⁵ However, the Services do not share a common definition of the circumstances or credentials that allow applicants to be labeled high school "graduate" or "nongraduate." While it is generally accepted that possession of a high school diploma is the best single measure of a person's potential for service, and the high school diploma is used as a "dividing line" for quality, many non-high school graduates do enter the military and successfully complete their first term of enlistment.

Compounding the issue is the existence of a wide and almost limitless variety of high school "graduation" standards being used in the various states, districts, and secondary schools, which makes the current standards applied by the Armed Forces appear almost "arbitrary." More "precise" standards, it is felt, can be developed to coincide with the substantial changes that have occurred in the nation's school systems. These vague and often ambiguous standards may currently allow some applicants to enter the military who will not perform up to acceptable levels. At the same time, others are now being disqualified from service who could probably complete an initial enlistment honorably. Table 5 shows this lack of specificity and uniformity among the Military Services in applying educational standards for enlistment.

⁵The principal "gauge" for measuring "success" is the first-term attrition rate.

As an example, the Air Force treats recipients of non-state accredited diplomas as non-high school graduates. The Navy evaluates these individuals on a case-by-case basis under their waiver procedures, while the Army and the Marine Corps call them high school diploma graduates. The Air Force, but not the other Services, recognizes the California High School Proficiency Examination (CHSPE) as a valid diploma. All Services except the Air Force recognize high school completion certificates as diplomas. All services except the Navy recognize (under specified conditions) correspondence school programs as an alternative source of high school diplomas. All Services except the Marine Corps recognize (under specific conditions) the authority of adult schools to grant high school diplomas. And there are several other variations between the enlistment policies of the individual Services (Eitelberg, 1983).

If the recruiting environment is favorable, the Marine Corps can meet its manpower goals by enlisting applicants with the highest indicators of "quality"--that is, the highest educational level coupled with the highest AFQT score. If the selection environment is unfavorable, standards can be relaxed rather than risk recruiting shortfalls. However, one researcher has raised some serious questions concerning the use of high school diplomas as predictors of potential performance in the military:

Table 5

Treatment of Secondary School Educational Credentials
for Enlistment Purposes During FY 1983, by Service

Secondary School Credential	Treatment for Enlistment Purposes*			
	ARMY	NAVY	MARINE CORPS	AIR FORCE
High School Diploma (State Accredited)	Grad	Grad	Grad	Grad
High School Diploma (Non-State Accredited)	Grad	Grad ¹	Grad	Non
High School Attendance Certificate	Grad	Grad	Grad	Non
High School Completion Certificate	Grad	Grad	Grad	Non
GED Certificate	GED ²	GED ²	Non	GED ²
High School Diploma Based on GED	GED ²	GED ²	Non	GED ²
Adult High School Diploma	Grad ³	Grad ⁴	Grad ⁵	Grad ⁶
California High School Proficiency Examination (CHSPE) Certificate	Non	Non	Non	Grad
Correspondence School	Grad ⁷	Non	Grad ⁷	Grad ⁸

Sources: M. J. Eitelberg, J. H. Laurence, L. S. Perelman, and B. K. Waters,
Screening for Service: Aptitude and Education Criteria for Military
Entry, FR-PRO-83-24 (Alexandria, Va.: HUMPRO, November 1983), (Draft),
p. 4-25.

*Grad is high school diploma graduate. GED is high school equivalency. Non is
non-high school graduate.

Table 5 (continued)

- 1 Enlisted as high school diploma graduates on a case-by-case waiver basis.
- 2 Enlisted under standards separate from both high school diploma graduates and nongraduates but reported as non-high school graduates.
- 3 Enlisted as high school diploma graduates provided that the diploma was awarded or authorized by the state.
- 4 Enlisted as high school diploma graduates provided that the program is recognized by the state.
- 5 Only individuals accessed as part of test programs (to determine success rates of adult high school programs) are enlisted as high school diploma graduates; all others are enlisted as non-high school graduates.
- 6 Enlisted as high school diploma graduates provided that the diploma was not issued as a result of the GED test only.
- 7 Enlisted as high school diploma graduates provided that the course/program is accredited by the National Home Study Council.
- 8 Enlisted as high school diploma graduates provided that the school is accredited by the state or jurisdiction.

"We know what the diploma predicts, successful first-term behavior, but what is it about the completion of the high school experience and/or the individuals who graduate that makes them persevere and perform well as soldiers, sailors, marines, and air men? It seems safe to assume that it is not education or the piece of paper per se that determines how well an individual will adapt to the discipline of the military environment. The high school diploma generally indicated only that a student has finished a required course of study and has passed all the necessary tests, not the extent to which he or she has learned particular subjects. The attributes that enable a student to complete high school rather than drop out are perhaps the "true" determinants of the individual's probability of fulfilling the first term of Service. That is, perseverance, maturity, participation in group learning situations, tolerance of and adaptability to rules and regulations, determination, as well as other possible factors involved in completing school, rather than whatever educational attainment is represented by the diploma, are probably the actual correlates of individual success in the military." (Laurence, August 1983)

The question raised here is not one of possessing or not possessing a high school diploma. But, what personal and performance characteristics (variables), after getting an educational credential, could be identified so the successful completion of an enlistment results? The proposal is thus offered that performance variables common in various education levels be identified, and that efforts be redirected toward recruiting prospective applicants who have the preferred combination of education and performance characteristics.

The variation in the types of secondary school credentials now being offered throughout the country is quite substantial. There are numerous forms of high school "diplomas,"

several varieties of "substitute" certificates for students who fail to graduate but complete most requirements, and various sorts of programs for persons who leave secondary school before graduating and later seek to gain some certification that they have the practical "equivalent" of a high school education. The wide variation in the types of diplomas, certificates, and equivalency credentials is complicated by the fact that methods of achievement and completion criteria--as well as the diploma-granting programs themselves--frequently differ.

Herein lies the problem. Emphasis is placed on applicants possessing a high school diploma. They are the preferred enlistment group. In addition, there are other external influences that affect the number of applicants seeking military service. Yet, manpower needs often dictate a quantity greater than the number of high school diploma graduates who are enlisted each year. Which applicants, then, with an "inferior" educational credential should be enlisted? Few studies have investigated the relationship between years of civilian school completed and performance variables while in the service. The need to do so has been presented. If a combination of performance characteristics were matched with educational levels, a reclassification of the "desired recruit" by educational level would be possible. Further, additional information concerning the "attrition rate gauge" for educational levels could be detailed.

IV. SCOPE, OBJECTIVE, METHODOLOGY

For many civilian and military policymakers, educational diplomas and degrees carry an almost devotional respect. Although these documents today are largely inconsistent and often ill-defined, they are viewed as symbols of achievement, accomplishment, or ability. In certain settings, diplomas and degrees are equated with an individual's level of knowledge, since the credential indicates (a) exposure to a learning situation and (b) the ability to demonstrate a certain level of "competence." Of course, the diploma or degree itself has nothing to say about either the quality of the learning situation (instruction) or the level of "competence" deemed acceptable.

In the military, high school diplomas are regarded less for what they may say about a person's knowledge, than for what they say about the probability that a person will perform reasonably well during his or her initial enlistment. To the military recruiter, diplomas do suggest that the recipient possesses a fair amount of talent or ability. But, even more important, the diploma certifies a person's value to the military by placing him or her in a desirable section of the military's actuarial charts; simply stated, individuals with a diploma have a much better chance of fulfilling their initial term of enlistment.

The position and policies of the Armed Services are based on the assumption that there is some sort of common definition of "high school graduate" and an established method for determining who gets a diploma or its equivalent. The fact of the matter is that there are numerous types of high school diplomas, equivalency certificates, and alternative credentials available today (as discussed above). Furthermore, there is a wide and almost limitless variety of "graduation" standards now being applied in the states, school districts, and in the individual secondary schools. And the problem is compounded even more when one examines how the separate Military Services categorize these credentials for their enlistment screening process.

There is no compelling reason why one Service should recognize a particular credential as a high school diploma and another Service should not. Without a strong reason or justification in support of one policy over another, the education standards used by the volunteer military today appear almost arbitrary. More precise standards should be developed to coincide with the substantial changes that have occurred in the secondary school systems of the nation. Now, with the availability of new resources in the Marine Corps accession file and the Defense Manpower Data Center (DMDC) computer files, the relationship between a wide variety of educational credentials and military performance criteria may be explored and evaluated.

A. SCOPE

This research attempts to gain a better understanding of the various educational credentials held today by young men seeking to enter the Marine Corps. The military performance of male enlistees is examined according to sixteen educational credentials (and reduced combinations). The results of this research could be used to assist the policymaker in (a) determining the likelihood that an enlistee with a certain educational background will honorably complete his first tour of duty and (b) establish the appropriate entry standards to screen persons with a high risk of attrition.

The decision to evaluate only male recruits was made because of the Marine Corps' enlistment policy for women. Women who enlist in the Marine Corps are currently required to be "high school graduates." In addition, the current ceiling on the number of women who may enlist in the Marine Corps is approximately 2,500 per year as compared with approximately 35,000 males. Women were thus excluded from the study sample because of their relatively small size (and associated problems of statistical reliability in subgroup analyses), as well as their exclusive concentration in the high school graduate category.

Male recruits who enlisted as reservists or had prior service were also removed from the data base. Reservists were believed to have insufficient time on active duty after recruit training to acquire valid performance and behavior

characteristics. The recruit with prior military service was likewise excluded from the data base because it was believed that this person differs from his nonprior service counterpart, and that these differences would become evident in the performance variables. The focus on male recruits only who did not have prior military service and did not enter as reservists was intended to reduce possible sample bias and, at the same time, focus on the largest and most "important" (from the Marine Corps' perspective) manpower resource.

This research can provide information that will help to create a common set of educational standards for enlistment applicable to all the services. This research attempts to clarify the standards currently used and unravel the imprecise and ambiguous interservice classifications of "graduate" and "nongraduate" educational credentials.

The Marine Corps was selected for the study because of the quality and comprehensiveness of material on education available in the Recruit Accession Master (RAMS) file. It is assumed that certain generalizations can be made about the "representative" behavior or military performance of persons with different educational experiences who enter the Marine Corps; and, further, it is assumed that the experiences of persons who enter the Marine Corps are basically similar to the experiences of persons with similar levels of education who enter the other Services.

This research is limited with respect to educational credentials. Only those credentials acknowledged by the Marine Corps are used. As previously discussed, diplomas, certificates, and equivalencies vary between states and school districts. Therefore, "subcategories" could be made for each specific educational credential within each state or district. It is considered beyond the scope of this research to conduct analyses on Marine recruits using the multitude of separate state educational credentials.

B. OBJECTIVE

This research evaluates current Marine Corps policy used in defining educational credentials. It attempts to identify and recommend improvements or refinements in the current treatment of the various educational credentials during the enlistment process. Such refinements could help to improve the selectivity of enlistees and thus reduce first term attrition.

The data base including male nonprior service enlistees who entered active duty between 1 October 1978 and 31 March 1983, is evaluated according to the educational credentials held by persons at the time of enlistment and selected performance factors during the initial tour of active duty.

This study differs from previous work in a number of ways. First, it attempts to evaluate current educational levels (from an unusually large variety of alternatives)

with performance from a population of the very recent past (FY 1978-83). In addition, each of the fiscal years has been reviewed individually and as a larger group; therefore, specific instances, generalities, and trends in the data can be identified. Finally, as stated previously, certain inferences can be made between evidence of Marine Corps experience in this study and the probable experiences in the other Military Services. All Services draw from the same pool of possible enlistees who have attended the same schools and have received the same education, diplomas, certificates, or credentials.

C. METHODOLOGY

Two data resources are used:

(1) Information on nonprior service accessions, as maintained by the Defense Manpower Data Center (DMDC).

These data report the level of education among accessions according to six categories of high school experience and eight categories of post-secondary schooling, as outlined in the Military Entrance Processing Command (MEPCOM) data element of "education certification" (implemented by directive in 1978). Additionally, DMDC's Cohort File provides numerous data elements for analysis in the area of performance and conduct. This file contains information on individuals at the time of their enlistment as well as subsequent military performance and conduct, to include attrition and extracts from the personnel inventory and loss files.

(2) Information on nonprior service accessions entering the Marine Corps between 1 October 1978 and 31 April 1983. This file combines data on Marine Corps accessions, as contained in the RAMS file, with data contained in the Department of Defense Master/Loss file.

Initially, the RAMS file contained the following number of accessions by fiscal year:

<u>Fiscal Year</u>	<u>Number of Total Accessions</u>
1978.....	47,530
1979.....	46,838
1980.....	50,501
1981-83 (Apr)	118,736
Total.....	263,605

The number of accessions shown below is the population base used for the analysis conducted as part of this research. (It has been updated by the cohort file from DMDC as of 1 March 1983.) The difference between accession totals from the initial Headquarters, Marine Corps data tape and what is presented below is due to the removal of females, reservists, and persons with prior military service during the matching of the two data resources.

<u>Fiscal Year</u>	<u>Number of Nonprior Service Male Accessions</u>
1978.....	35,306
1979.....	36,160
1980.....	38,123
1981.....	37,335
1982.....	33,672
1983 (Apr)	15,963
Total.....	196,562

Matching the two data resources provided a data base that included enlistment and recruit training

characteristics, and performance data after training (until either separation or the last data update of 31 March 1983). It was determined that combining the two sources gave the most complete set of variables and information for conducting the analysis. A limitation in the development of this research was the quantity of variables that became available for selection. Behavioral and performance-oriented characteristics, personal demographics, and variables showing individual history were readily available for selection and use. Analysis on each possible variable and its relationship to educational credentials was considered beyond the scope of this research.

DMDC software was used for the statistical analyses of the data (grouped by varying characteristics). Through the use of this software, control for nonessential data, as compared with specific data used in each analysis, could be achieved.

Table 6 provides a comparison between the Services by attrition rates and educational credentials. In addition, Table 6 shows a type of norm, attrition rates for the Services in all educational categories, for the period 1973-79 combined. Finally, this table displays an "historical" rate for attrition. In the case of the Marine Corps, the historical rate of attrition is 33.2 percent for all levels of education during the period just prior to the first year of the data used in this research. Therefore,

any attrition rate less than this could be considered "successful." Just as appropriate, any attrition greater than 33.2 percent by persons in a particular educational group might be unacceptable, or an initial signal for further investigation.

Table 6

Percent Attrition During First Three Years of
Active Duty Among Male Nonprior Service
Accessions (1973-79), by Level of Education and Service

Level of Education	Army	Navy	Marine Corps	Air Force	DoD
Less than 11 years	51.8	55.9	48.6	57.9	52.1
11 or 12 years with no Diploma	43.6	47.2	39.7	47.7	44.0
12 years or less with GED	46.7	42.0	45.7	52.0	47.3
12 years with Diploma	24.4	24.9	24.8	25.3	24.8
13 years or more	18.2	18.9	22.7	17.4	18.5
All levels	34.4	31.5	33.2	28.1	32.3

Source: Derived from data provided by the Defense Manpower Data Center.

Because the historical rate is 33.2 percent, it does not set any special or preferred model for the future. It should be the objective of policymakers to seek procedures to lower the attrition rate to zero, meaning we have been able to select only the very best recruit. While

32.2 percent can be considered outrageously high and alarming, it is a factual occurrence of what has transpired in the past and can be used as a reference. This research will compare the "best" with the "worst" from the data resources and provide recommendations to take the "best," and tighten up screening variables on the "worst."

V. ANALYSIS

This chapter presents the results of the statistical routines conducted on the two resources used as the data base. The analysis is presented primarily in the form of frequency distributions and crosstabulations for which trends, peculiarities, and observations are addressed. The Analysis is divided into three sections: personal descriptive variables, attrition, and a summation of the results. To aid the reader in digesting the many tables and cross-tabulations, data on personal descriptive variables and attrition rates are presented in the following manner: tables along with a statement describing the composition and purpose of the material, observations, and implications. (Observations or implications are omitted in some instances, due to the nature of the table.)

Some of the statistical data presented could be misleading due to the small number of recruits with certain educational credentials. In instances where the percentages or figures displayed in a table appear questionable as a result of the small cell size, a footnote to the table is added to bring this to the reader's attention.

Before the presentation of the analysis, it would be helpful to look at the average male Marine recruit who

enlisted between FY 1978-83, as drawn from the two data sources.

A. A COMPOSITE OF THE MALE MARINE RECRUIT (1978-83)

The Marine who enlisted during the period of the data base (1978-83) has the following characteristics:

1. He is probably a high school graduate with a diploma (67.3 percent) or, to a lesser extent, has only 10 years of education (11.2 percent).
2. He is probably 18 (40.5 percent) or 19 years old (21.1 percent).
3. Over the period of the data base, 12.6 percent of the enlistees with a high school diploma scored between the 45th and 55th percentile on the AFQT. In addition, 40 percent scored above the 56th percentile. The recruit with a high school diploma has a mean AFQT percentile score of 50.
4. There is a 92 percent chance that he was single when he entered the Marine Corps.
5. If the recruit had an AFQT percentile score between 45 and 55 and enlisted in 1978-79, he was probably not eligible for reenlistment after his initial tour. If he enlisted between 1980-83, his probability of being eligible for reenlistment increased substantially. (However, caution should be used when analyzing results from 1981 to 1983 because of the short period of time (to present) allowed for military experience by the individual.)
6. If he is a high school graduate with a diploma, he has a 17 percent probability of attrition after 2 years of service.
7. His paygrade after finishing the first term of active duty, if he is a high school graduate with a diploma, could be as high as E-4. If he is a nongraduate, the likelihood is that he will be an E-2 when he completes his first enlistment.

B. ANALYSIS BY PERSONAL VARIABLES

Table 7 displays the 16 levels of education that are the main focus throughout the analysis. In addition, Table 7

Table 7

Number of Male Nonprior Service Accessions
Entering the Marine Corps by Year of
Accession and Level of Education

Level of Education ^a (Years)	Year of Accession						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
7 Through 9	158	59	27	6	2	2	256
10 Years	4,922	5,383	4,723	3,676	2,314	994	22,012
11 Years	3,672	3,534	3,247	3,055	1,739	687	15,934
12 with No Certification	0	2	1,248	1,888	756	33	3,927
12 with H.S. Diploma	23,891	22,675	24,730	25,202	24,372	11,487	132,357
12 with GED	1,189	1,111	1,251	1,573	1,406	725	7,255
12 with H.S. Certificate of Completion	349	1,228	1,140	66	31	27	2,841
12 with Vocational Certificate of Attendance	0	0	134	80	65	14	293
12 with Academic Certificate of Attendance	1	1,130	409	380	1,492	897	4,309
13 with 1st Year of College Equivalency	11	7	30	1	0	3	52
13 with College Certificate of Attendance	548	526	562	704	691	467	3,498
14 with AA Degree	68	57	85	58	129	146	543
14 with College Certificate of Attendance	274	254	278	354	373	265	1,798

Table 7 (continued)

Level of Education ^a (Years)	Year of Accession						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
15 with College Certificate of Attendance	123	101	140	139	137	97	737
16 with BA Degree	90	82	74	96	119	93	554
16 with College Certificate of Attendance	8	7	26	45	47	21	154
Other/Unknown	2	4	19	12	2	5	44
All Levels	35,306	36,160	38,123	37,335	33,675	15,963	196,562

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

^a Four Correspondence School Course Graduates enlisted during FY 1978-83 and are not included.

shows how the nonprior service male recruits are distributed within these educational categories.

Observations. An example of how a small cell size may influence the statistical routines used in this chapter can be seen in the educational category "13 years with the 1st year of college equivalency." In this category, over 50 percent of the recruits entered the Marine Corps in 1980 (30 of 52). Implications drawn from statistical routines conducted on any of the other years in this category must be subject to question because of the small number of cases. Other instances where statistical reliability may be

questionable due to small cell size are identified as they occur in data and tables presented below.

Table 8 presents the percentages of persons within the educational categories, as shown in Table 7, by the fiscal year in which the individual entered active duty. The asterisks next to the various educational levels indicate which educational categories are currently used by the Marine Corps in defining a "high school graduate."

Observations

1. Recruits with 10 and 11 years of education and GED recipients, compose the second, third, and fourth (11.2, 8.1, and 3.7 percent) greatest source of all recruits entering the Marine Corps during the period FY 1978-83. These same three educational levels are not considered in the Marine Corps' definition of a high school graduate.

2. The yearly quantity of accessions with educational credentials 7 through 11 years has declined since 1978. There is one exception: the recruit with 10 years of education in 1979. There is a one percentage point increase between 1978 and 1979 (13.9 to 14.9), then the decrease commences in 1980 (8.5 percent).

3. Of the educational levels below high school completion (12 years), the recruit with 10 years of education (high school sophomore) consistently represents the larger percentage of accessions (10 years with 11.2 percent as

Table 8

Percentage Distribution of Male Nonprior Service
Accessions Entering the Marine Corps by
Year of Accession and Level of Education

Level of Education (Years)	Year of Accession						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
7 Through 9	0.4	0.1	0.1	0.1	0.1	0.1	0.1
10 Years	13.9	14.9	12.4	9.9	6.9	6.2	11.2
11 Years	10.4	9.8	8.5	8.1	5.1	4.3	8.1
12 with No Certification	0	0	3.3	5.1	2.2	0.2	2.0
*12 with H.S. Diploma	67.7	62.7	64.9	67.5	72.3	72.0	67.3
12 with GED	3.3	3.0	3.3	4.2	4.1	4.5	3.7
*12 with H.S. Certificate of Completion	.9	3.4	3.0	0.1	0.1	0.1	1.4
*12 with Vocational Certificate of Attendance	0	0	0.4	0.2	0.1	0.1	0.1
*12 with Academic Certificate of Attendance	0	3.1	1.2	1.0	4.4	5.6	2.2
*13 with 1st Yr of College Equivalency	0.1	0.1	0.1	0	0	0.1	0.1
*13 with College Certificate of Attendance	1.6	1.4	1.5	1.9	2.0	2.9	1.8
*14 with AA Degree	0.1	0.1	0.2	0.1	0.3	0.9	0.3
*14 with College Certificate of Attendance	0.8	0.7	0.7	0.9	1.1	1.6	0.9

Table 8 (continued)

Level of Education (Years)	Year of Accession						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
*15 with College Certificate of Attendance	0.3	0.2	0.4	0.3	0.4	0.6	0.4
*16 with BA Degree	0.2	0.2	0.2	0.2	0.3	0.6	0.3
*16 with College Certificate of Attendance	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Other/Unknown	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<u>All Levels</u> ^a	100	100	100	100	100	100	100

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

* Indicates current Educational Levels considered by the Marine Corps as high school graduates.

a Total percent might not add to 100 due to rounding.

compared to 11 years with 8.1 percent, 12 years with no certification at 2.0 percent, or 7-9 years with 0.1 percent).

4. The percentage of accessions who possess a high school diploma has generally increased over the period of the data base (62.7 in 1979 to 72.3 in 1982).

Recruits who have entered the Marine Corps by age and for each fiscal year of the data base are shown in Table 9.

Observations

1. About two out of every five male recruits is 18 years old when first enlisted in the Marine Corps. About

Table 9

Number and Percentage of Male Nonprior Service
Accessions Who Entered the Marine Corps by Age and
Year of Accession

Age at Entry (Year)	Number						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
17	7,371	7,413	6,399	6,044	4,735	1,044	33,006
18	13,915	14,817	15,193	15,531	14,577	5,490	79,523
19	7,160	7,227	8,328	7,750	6,850	4,196	41,511
20	3,035	3,001	3,643	3,502	3,014	2,097	18,319
21-26	3,658	3,519	4,332	4,266	4,209	2,990	22,974
27+	167	183	228	242	263	146	1,229
Total	36,306	36,160	38,123	37,335	33,675	15,963	196,562

Age at Entry (Year)	Percentage						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
17	20.9	20.5	16.8	16.2	14.1	6.5	16.8
18	39.4	41.0	39.8	41.5	43.3	34.4	40.5
19	20.3	20.0	21.8	20.8	20.3	26.3	21.1
20	8.6	8.3	9.6	9.4	9.0	13.2	9.3
21-26	10.3	9.7	11.4	11.4	12.5	18.7	11.7
27+	0.5	0.5	0.6	0.7	0.8	0.9	0.6
Total	100	100	100	100	100	100	100

Source: Derived from data provided by Headquarters,
Marine Corps and the Defense Data Manpower Data Center.

20 percent of the male recruits are 19, while 20 percent are 20 years or older. Almost 17 percent are 17 years old.

2. The percentage of 17 year old recruits has been decreasing (20.9 percent in 1978 to 14.1 percent in 1982), while the percentage of recruits over the age of 21 has increased over the past six years (10.8 percent in 1978 to 19.6 percent in 1983).

Table 10 shows the recruits by year of accession, educational level, and the percent that scored above the 50th percentile on the AFQT.

Observations

1. The average recruit who possessed a high school diploma during the years 1978, 1979 and 1980 scored below the 50th percentile (44.4, 42.4, and 44.1 percent respectively). The average recruit in the educational level 7 through 9 years for 1978 and 1982 scored above the 50th percentile (50.1 and 63.0 percent, respectively.).

2. With the exception of 1978, the recruits with 11 years of education represent a larger proportion of persons who scored above the 50th percentile than recruits with a high school diploma. As discussed in the background chapter, AFQT scores required for entrance into the Marine Corps are higher for non-high school graduates than for high school graduates. Therefore, this basic finding is expected.

3. From FY 1978 to 1983, the recruit who possessed a GED credential represented a larger segment who scored

Table 10

Percent of Male Nonprior Service Accessions
Who Scored Above the 50th Percentile
By Year of Accession and Level of Education

Level of Education (Years)	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
7 Through 9	50.1	33.9	63.0	33.3	100 ^c	50.0
10 Years	35.8	40.8	45.8	55.4	58.5	79.8
11 Years	41.1	45.4	49.2	58.3	62.2	82.3
12 with No Certification	0 ^a	50.0 ^c	26.3	36.8	37.6	48.5
12 with H.S. Diploma	44.4	42.4	44.1	54.4	54.9	57.7
12 with GED	56.5	55.4	57.3	62.3	63.1	79.7
12 with H.S. Certificate of Completion	30.7	29.2	34.6	40.9	48.4	37.0
12 with Vocational Cert. of Attendance	0 ^a	0 ^a	36.6	35.0	36.9	57.1
12 with Academic Cert. of Attendance	0 ^b	24.7	28.6	37.9	36.5	42.0
13 with 1st Year of College Equivalency	36.4	42.9	80.0	100 ^b	0 ^a	0 ^d
13 with College Certificate of Attendance	67.5	66.9	73.0	77.6	80.2	78.8
14 with AA Degree	76.5	71.9	67.1	63.8	87.6	84.3
14 with College Certificate of Attendance	72.6	68.9	71.6	83.3	82.3	78.9

Table 10 (continued)

Level of Education (Years)	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
15 with College Certificate of Attendance	70.7	68.3	80.5	82.4	69.8	80.7
16 with BA Degree	73.3	80.5	82.4	69.8	80.7	82.8

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a No recruits enlisted with this educational credential.

b One recruit enlisted with this educational credential. Cell size influences percentage.

c Two recruits enlisted with this educational credential. Cell size influences percentage.

d Three recruits enlisted with this educational credential. Cell size influences percentage.

above the 50th percentile than did the recruit with a high school diploma. Again, the enlistee whose educational credential prevents him from being classified as a high school graduate must score a higher AFQT percentile in order to be eligible for enlistment. Therefore, this observation is not surprising.

4. After 1980, there is an increase of 5 to 10 percentage points in the AFQT percentile scores among the various educational levels. Exceptions are: 7 through 9 years, which is due to the lower number of recruits between 1980-81 (27 to 6); GED recipients; 12 years with vocational certificates of attendance, again due to the fewer number of

recruits (134 to 80); 14 years with an AA degree, also due to the reduced number of recruits (85 to 58); and recruits with a BA degree.

Implications. Analysis of educational levels above the 12th year with an academic certificate of attendance is considered questionable due to the comparatively small number of recruits in each cell.

A table showing recruits who scored below the 50th percentile, by level of education and year of accession is provided in Appendix B. In addition, in Appendix C, a table displaying the percent of accessions entering the Marine Corps by fiscal year, educational level, and AFQT (I/II, IIIA, IIIB, IV) is provided.

Table 11 displays the marital status of the male recruits at the time of enlistment by educational level and for each year of the data base.

Observations. Without an exception, and for every educational level in each fiscal year, the vast majority of new male recruits were single when they enlisted in the Marine Corps. Approximately 92 percent (or higher) of the male recruits in each educational level for each fiscal year are single.

The percentage of those separated who were eligible to reenlist by year of accession and AFQT category (I and II combined, IIIA, IIIB, and IV) is shown in Table 12.

Table 11

Percent of Nonprior Service Accessions
 Entering the Marine Corps by Marital Status
 Level of Education and Year of Accession^{a,b}

FY 1978

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0.4	0	0	0	0.4
10 Year	0.5	13.4	0	0	0	13.9
11 Years	0.4	10.0	0	0	0	10.4
12 with No Certification	0	0	0	0	0	0
12 with H.S. Diploma	2.1	65.3	0.2	0.1	0	67.7
12 with GED	0.3	3.1	0	0	0	3.4
12 with H.S. Certificate of Completion	0.1	0.9	0	0	0	1.0
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	0	0	0	0	0	0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.1	1.4	0	0	0	1.5
14 years with AA Degree	0	0.2	0	0	0	0.2

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
14 with College Certificate of Attendance	0.1	0.7	0	0	0	0.8
15 with College Certificate of Attendance	0	0.3	0	0	0	0.3
16 years with BA Degree	0	0.2	0	0	0	0.2

FY 1979

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0.2	0	0	0	0.2
10 Year	0.3	14.5	0	0	0	14.8
11 Years	0.3	9.4	0	0	0	9.7
12 with No Certification	0	0	0	0	0	0
12 with H.S. Diploma	1.7	60.8	0.2	0.0	0	62.5
12 with GED	0.2	2.8	0	0	0	3.0
12 with H.S. Certificate of Completion	0.1	3.3	0	0	0	3.4
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	0.1	3.1	0	0	0	3.2

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.1	1.3	0	0	0	1.4
14 years with AA Degree	0	0.1	0	0	0	0.1
14 with College Certificate of Attendance	0.1	0.6	0	0	0	0.7
15 with College Certificate of Attendance	0	0.3	0	0	0	0.3
16 years with BA Degree	0	0.2	0	0	0	0.2

FY 1980

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0.1	0	0	0	0.1
10 Year	0.4	11.9	0.1	0	0	12.4
11 Years	0.2	8.2	0	0	0	8.4
12 with No Certification	0.1	3.2	0	0	0	3.3
12 with H.S. Diploma	2.1	62.3	0.3	0.0	0	64.8
12 with GED	0.2	3.0	0	0	0	3.2

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
12 with H.S. Certificate of Completion	0.1	2.9	0	0	0	3.0
12 with Vocational Certificate of Attendance	0	0.3	0	0	0	0.3
12 with Academic Certificate of Attendance	0	1.0	0	0	0	1.0
13 with 1st Year of College Equivalency	0	0.1	0	0	0	0.1
13 with College Certificate of Attendance	0.1	1.4	0	0	0	1.5
14 years with AA Degree	0	0.2	0	0	0	0.2
14 with College Certificate of Attendance	0	0.7	0	0	0	0.7
15 with College Certificate of Attendance	0	0.3	0	0	0	0.3
16 years with BA Degree	0	0.2	0	0	0	0.2

FY 1981

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0	0	0	0	0
10 Year	0.3	9.5	0.1	0	0	9.8

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
11 Years	0.3	7.9	0	0	0	8.2
12 with No Certification	0.2	4.9	0	0	0	5.1
12 with H.S. Diploma	2.2	65.2	0.1	0.0	0	67.5
12 with GED	0.3	3.9	0	0	0	4.2
12 with H.S. Certificate of Completion	0	0.2	0	0	0	0.2
12 with Vocational Certificate of Attendance	0	0.2	0	0	0	0.2
12 with Academic Certificate of Attendance	0	1.0	0	0	0	1.0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.1	1.8	0	0	0	1.9
14 years with AA Degree	0	0.2	0	0	0	0.2
14 with College Certificate of Attendance	0.1	0.9	0	0	0	1.0
15 with College Certificate of Attendance	0	0.3	0	0	0	0.3
16 years with BA Degree	0.1	0.2	0	0	0	0.3

Table 11 (continued)

FY 1982

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0	0	0	0	0
10 Year	0.3	6.6	0.1	0	0	6.9
11 Years	0.2	4.9	0	0	0	5.1
12 with No Certification	0.1	2.2	0	0	0	2.3
12 with H.S. Diploma	2.3	69.7	0.1	0.0	0	72.1
12 with GED	0.3	3.9	0	0	0	4.2
12 with H.S. Certificate of Completion	0	0.1	0	0	0	0.1
12 with Vocational Certificate of Attendance	0	0.2	0	0	0	0.2
12 with Academic Certificate of Attendance	0.1	4.3	0	0	0	4.4
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.2	1.9	0	0	0	2.1
14 years with AA Degree	0	0.3	0	0	0	0.3
14 with College Certificate of Attendance	0.1	0.9	0	0	0	1.0

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
15 with College Certificate of Attendance	0.1	0.4	0	0	0	0.5
16 years with BA Degree	0.1	0.3	0	0	0	0.4

FY 1983 (Apr)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
7 Through 9	0	0	0	0	0	0
10 Year	0.3	5.9	0.1	0	0	6.2
11 Years	0.3	4.0	0	0	0	4.3
12 with No Certification	0	0.2	0	0	0	0.2
12 with H.S. Diploma	3.8	68.0	0.2	0.0	0	72.0
12 with GED	0.4	4.2	0	0	0	4.6
12 with H.S. Certificate of Completion	0	0.2	0	0	0	0.2
12 with Vocational Certificate of Attendance	0	0.1	0	0	0	0.1
12 with Academic Certificate of Attendance	0.2	5.4	0	0	0	5.6
13 with 1st Year of College Equivalency	0	0	0	0	0	0

Table 11 (continued)

Level of Education (Years)	Married	Single	Divorced	Legally Separated	Other	Percent of Accessions
13 with College Certificate of Attendance	0.3	2.6	0	0	0	2.9
14 years with AA Degree	0.1	0.8	0	0	0	0.9
14 with College Certificate of Attendance	0.2	1.5	0	0	0	1.7
15 with College Certificate of Attendance	0.1	0.5	0	0	0	0.6
16 years with BA Degree	0.1	0.5	0	0	0	0.6

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a This table should be viewed so if the different marital status were totalled in each educational level, the sum would equal the total accessions for that educational level in the specific year.

b Slight differences in the total accession percentages in this table, when compared with other tables, are due to mathematical rounding.

Observations. Persons in AFQT category I and II (combined) clearly have the highest eligibility rates for reenlistment. Eligibility rates characteristically decline in direct correspondence with decreases in AFQT categories (when the data are viewed in this aggregate form; 32.2 percent in category I/II; 26.8 in category IIIA; 24.0 in

category IIIB; and 19.1 percent in category IV). Notable exceptions occurred for persons in AFQT category IV who entered the Marine Corps in FY 1981 (who had higher rates than their contemporaries in categories IIIA or IIIB); and for those in category IIIB who entered during the FY 1982-83 period.

Table 12

Percent of Male Nonprior Service Accessions
Separated and Eligible to Reenlist by
Year of Accession and AFQT^a

AFQT Category	Year of Accession						Total
	1978	1979	1980	1981	1982	1983 (Apr)	
I/II	54.5	38.3	18.0	7.1	5.4	8.2	32.2
III A	45.5	33.0	14.9	5.9	3.9	7.0	26.8
III B	39.1	29.9	14.9	5.8	4.1	7.6	24.0
IV	36.4	29.2	13.3	6.5	3.5	1.2	19.1

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

^a Percentages computed by taking the number entering active duty in each AFQT category within a fiscal year, subtracting the quantity still on active duty as of 31 March 1983, and dividing the remainder by the number separated who were eligible to reenlist.

Implications.

1. Caution must be exercised when interpreting eligibility rates in all AFQT categories for FY 1982 and 1983.

A lack of data "maturity" is probably responsible for the lower rates during these more recent years.

2. Another cause in the drop of reenlistment eligibility between FY 1980 and 1981 could be a policy change in the criteria used for determining eligibility. This could make a Marine in 1980 who was otherwise eligible to reenlist, in 1981 be classified as ineligible.

On Table 13, the percentages of those separated who were eligible to reenlist by year of accession, level of education and AFQT category are presented.

Observations

1. As seen in Table 13, the higher the educational level at the time of initial enlistment, the greater the chance (percentage) of being eligible for reenlistment at the time of separation. This is especially true when the lower education levels (e.g., 10 and 11 years of education and GED recipients) and AFQT category IV (where 21.2 percent are eligible) are compared with higher educational levels (e.g., 12 years with a high school diploma, a certificate of completion or an academic certificate of attendance) and the same AFQT category (IV) (where 28.8 percent are eligible).

2. Within each educational level and the same AFQT category, as the year of enlistment progresses from 1978 to 1983, the percent of those eligible for reenlistment declines. This is probably caused by the lack of "maturity" in the data base, and would be expected to change over time.

Table 13

Percent of Marine Corps Male Nonprior Service Accessions
Separated and Eligible to Reenlist by Year of
Accession, Level of Education, and AFQT*

AFQT Category	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
<u>7 - 9 Years of Education</u>						
I/II	40.0	25.0	0a	0a	0a	0a
IIIA	29.4	20.0	20.0	0b	0b	0b
IIIB	8.5	17.2	16.7	0a	0b	0b
IV	10.0	0a	0a	0a	0b	0b
<u>10 Years of Education</u>						
I/II	30.5	23.6	15.6	7.7	7.1	4.4
IIIA	27.2	23.1	13.3	5.2	6.2	3.7
IIIB	23.5	21.6	13.5	6.0	3.8	2.3
IV	23.7	18.6	11.4	4.4	0a	0a
<u>11 Years of Education</u>						
I/II	38.2	27.5	15.1	5.7	5.3	3.6
IIIA	30.9	24.4	13.9	7.2	4.1	6.4
IIIB	28.5	23.2	14.9	6.4	5.1	0a
IV	26.5	22.9	13.5	10.1	0a	0b
<u>12 Years with No Certification</u>						
I/II	0c	0c	15.8	8.9	2.6	0a
IIIA	0c	0a	18.9	11.3	2.5	0a
IIIB	0c	0b	15.4	4.8	3.2	0a
IV	0c	0b	6.4	9.4	0a	0a
<u>12 Years with High School Diploma</u>						
I/II	60.3	43.4	17.6	5.9	5.2	9.4
IIIA	54.5	42.7	5.7	5.3	4.1	8.9
IIIB	48.7	37.9	15.9	5.5	4.1	9.5
IV	40.6	33.6	14.1	5.8	3.5	1.4
<u>12 Years with GED</u>						
I/II	34.8	28.3	17.1	5.6	2.2	5.3
IIIA	27.4	17.6	14.7	6.0	0.7	0a
IIIB	28.9	23.1	15.4	7.5	3.7	3.3
IV	21.8	22.0	15.0	0a	0a	0b
<u>12 Years with High School Certificate of Completion</u>						
I/II	41.5	35.7	6.4	0a	0a	0a
IIIA	55.0	22.6	12.9	0a	0b	0b
IIIB	41.3	26.3	11.3	12.5	0a	0a
IV	27.9	23.9	12.8	0a	0a	0b

Table 13 (continued)

AFQT Category	Year of Accession					1983 (Apr)
	1978	1979	1980	1981	1982	
<u>12 Years with Vocational Certificate of Attendance</u>						
I/II	0c	0c	0a	0a	50.0	0a
IIIA	0c	0c	0a	0a	0a	0b
IIIB	0c	0c	7.7	0a	0a	0b
IV	0c	0c	3.9	33.3	0a	0b
<u>12 Years with Academic Certificate of Attendance</u>						
I/II	0c	20.3	33.3	5.0	4.4	7.1
IIIA	0c	31.1	15.4	10.0	0a	3.5
IIIB	0c	27.6	11.4	2.4	4.9	2.9
IV	100.0	20.4	17.1	0a	5.0	0a
<u>13 Years with 1st Year of College Equivalency</u>						
I/II	50.0	100.0	50.0	0a	0c	0b
IIIA	0c	0c	0a	0c	0c	0b
IIIB	0a	100.0	0c	0c	0c	0c
IV	33.3	0b	0a	0c	0c	0c
<u>13 Years with College Certificate of Attendance</u>						
I/II	63.7	62.8	32.9	11.5	6.7	12.0
IIIA	51.5	50.9	13.0	6.5	4.4	25.0
IIIB	53.3	33.3	26.1	6.1	0a	6.3
IV	32.4	22.0	17.1	12.5	14.3	0
<u>14 Years with Academic Associates</u>						
I/II	81.8	50.0	26.7	0a	0a	11.1
IIIA	50.0	60.0	0a	0a	0a	100.0
IIIB	57.1	40.0	0a	20.0	0a	0a
IV	33.3	66.6	0a	0b	0a	0b
<u>14 Years with Certificate of Attendance</u>						
I/II	67.6	57.7	38.3	18.5	2.0	6.6
IIIA	54.5	35.3	18.2	0a	0a	50.0
IIIB	44.8	33.3	14.3	0a	0a	14.3
IV	44.4	23.1	28.6	33.3	0a	0a
<u>15 Years with College Certificate of Attendance</u>						
I/II	65.0	48.7	39.1	13.3	6.3	25.0
IIIA	50.0	60.0	10.0	0a	0a	0a
IIIB	44.4	20.0	55.5	0a	40.0	0b
IV	27.8	0a	10.0	0b	0b	0a

Table 13 (continued)

AFQT	Year of Accession					
Category	1978	1979	1980	1981	1982	1983 (Apr)
<u>16 Years with Bachelor of Arts Degree</u>						
I/II	65.0	72.2	66.7	47.1	36.4	28.6
IIIA	41.7	42.9	75.0	50.0	0a	20.0
IIIB	50.0	100.0	0a	12.5	0a	0a
IV	37.5	33.3	0a	50.0	0a	0b
<u>16 Years with College Certificate of Attendance</u>						
I/II	66.7	20.0	50.0	33.3	12.5	0a
IIIA	0a	100.0	0b	0a	0a	0b
IIIB	0c	0c	0a	25.0	0b	50.0
IV	50.0	0c	0a	0c	0a	0b

Source: Derived from the data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

* Percentages computed by taking the number accessed in each AFQT category, educational level and fiscal year, subtracting the quantity still on active duty as 31 March 1983, and dividing the remainder by the number separated who were eligible to reenlist.

a Of those separated within the specific educational level, AFQT category, and year of accession, none were eligible to reenlist.

b Of the total accessions within the specific AFQT category, educational level, and year of accession, there were no separations; therefore, computing reenlistment eligibility was not possible.

c No accessions for the specific fiscal year by AFQT category or type of educational credential.

3. There is a general pattern that exists in Table 13. Within each educational level and within each year, the higher the AFQT category, the higher the likelihood of being eligible for reenlistment. However, there are

many exceptions--some due to a lack of "maturity" in the data, others due to policy changes in the eligibility criteria for reenlistment. It is therefore doubtful that conclusive trends can be established here.

Implications. There are four AFQT categories (I/II, IIIA, IIIB, and IV), 6 years to the data base (FY 1978-83), and 16 levels of education shown in Table 13. Consequently, a possibility of 384 percentages showing recruits who are separated and eligible to reenlist should be indicated. In actuality, 20.8 percent of the cells (approximately 80 cells out of the total) indicate that no male recruits were eligible to reenlist. This could imply changes occurred in the criteria used for making reenlistment eligibility decisions.

C. ANALYSIS BY ATTRITION VARIABLES

As previously defined, "attrition" refers to the separation or discharge of an individual from military service prior to tour completion. Adverse attrition (failure to meet minimum behavioral or performance standards) is a subset of the general category of all persons separated from active duty, and is relatively easy to identify as an individual performance measure.

Attrition has major implications for the services since substantial costs are incurred in recruiting, processing and training recruits who are discharged prior to completing their enlistment. In addition, an implicit cost that is

difficult to measure is the effect attrition has on mission accomplishment.

Dr. Eli S. Flyer, in his 1959 report entitled "Factors Relating to Discharge of Unsuitability Among 1956 Airman Accessions to the Air Force" (Flyer, 1959), showed that high school graduation was the best single predictor of attrition from service. While first-term male attrition has increased over the years, the relationship between educational levels (at the time of service entry) and attrition has remained relatively constant.

The analysis in this section looks at only the first-term attrition of male recruits as of 31 March 1983. It should be noted that data from recent years only permits one look at short-term attrition. Obviously the attrition rates for persons entering in 1982 will increase over the next two years. For instance, a person entering in September 1982 could serve until September 1985 before completing a standard three-year tour.

This section of the Analysis used the same format as the preceding section, but views the data sources from an attrition perspective.

In Table 14, attrition percentages (rates) are examined by level of education and various lengths of service for the entire period of the data base.

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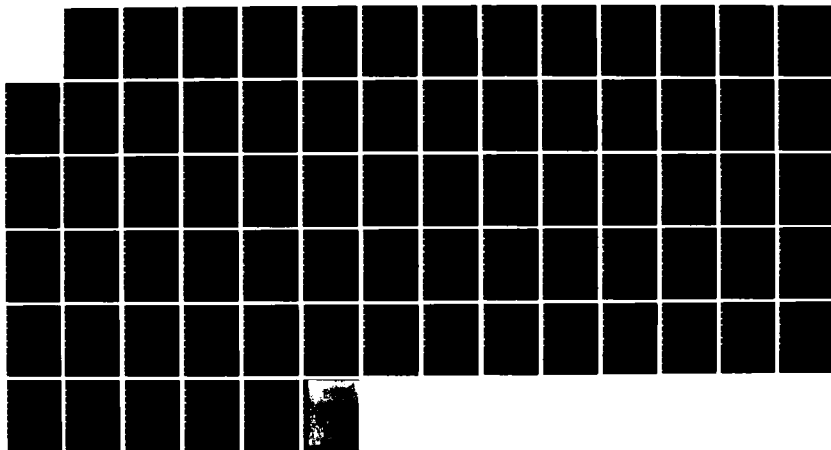
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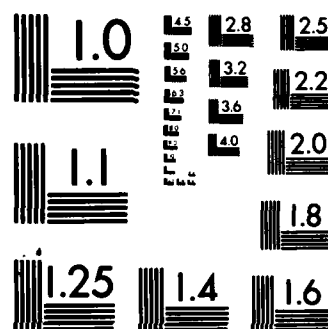
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Observations.

1. The attrition rates for high school graduates with diplomas and persons with college attendance are consistently and appreciably lower than the rates for persons in other categories.

2. At the two-year point (though not all recruits have had the opportunity to serve at least two years), attrition is highest for those with only 7 through 9 years of education (54 percent)--followed by those with only 10 years of education (35 percent), those with equivalency certificates (33 percent), persons with 11 years of education (30 percent), and persons with vocational certificates (29 percent), no certificates (27 percent) and high school certificates of completion (24 percent).

3. Persons with academic certificates of attendance fare somewhat better at the two-year point (21 percent); but high school diploma graduates (17 percent attrition) and those with 13 or more years of schooling (15 to 22 percent attrition) still exhibit the best chance of staying in the Marine Corps.

4. About half of the attrition occurring during the first three years of service generally takes place in the first 12 months of active duty.

Attrition rates during the first two years of service by AFQT category and level of education are shown in Table 15.

Table 14

Percent Attrition Among Male Nonprior
Service Accessions Who Entered the Marine Corps
between FY 1978-83, by Level of Education
and Length of Service

Level of Education (Years)	Length of Service				Number of Accessions
	0-3 mon.	0-1 yr.	0-2 yr.	* 0-3 yr.	
7 Through 9	37.4	44.1	53.9	59.4	254
10 Years	20.0	25.6	34.7	42.5	22,012
11 Years	16.7	21.5	30.1	36.8	15,934
12 with No Certification	17.8	20.8	26.6	29.1	3,927
12 with H.S. Diploma	10.5	13.2	17.0	19.8	132,357
12 with GED	21.1	25.4	32.3	37.2	7,255
12 with H.S. Certificate of Completion	10.1	14.8	23.9	32.7	2,841
12 with Vocational Certificate of Attendance	16.4	20.8	28.3	32.4	293
12 with Academic Certificate of Attendance	15.5	17.7	21.0	24.4	4,309
13 with 1st Year of College Equivalency	9.6	11.5	15.4	17.3	52 ^a
13 with College Certificate of Attendance	11.4	14.4	17.4	19.0	3,498
14 with AA Degree	10.5	13.1	15.3	15.7	543
14 with College Certificate of Attendance	11.1	14.7	18.4	20.4	1,798

Table 14 (continued)

Level of Education (Years)	Length of Service *				Number of Accessions
	0-3 mon.	0-1 yr.	0-2 yr.	0-3 yr.	
15 with College Certificate of Attendance	14.4	17.8	21.9	24.0	737
16 with BA Degree	13.5	16.0	17.5	18.1	554
16 with College Certificate of Attendance	11.7	14.9	22.1	22.7	154
Other/Unknown	18.3	18.3	22.7	25.6	44 ^a
All Levels	12.8	16.4	21.1	24.9	196,562

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

* Nonprior service accessions shown here entering active duty between 1 October 1978 and 1 April 1983. Attrition is recorded as of 31 March 1983. Thus, potential length of services varies; and only persons who entered between October 1978 and March 1980 have had the opportunity to serve at least 3 years.

a Small number of accessions with this educational credential may cause skewness in attrition percentages.

Observations

1. Attrition, as observed by AFQT category here, is relatively consistent with the trends displayed in Table 14. Across education levels, enlistees with higher AFQT scores are less likely to leave military service prematurely than those with lower scores.

2. Also, attrition rates generally increase as one moves from AFQT category I/II to category IV. The exceptions

to this trend may be the result of a small number of recruits accessed within a specific educational level. (As an example, the attrition rate shown for the recruit with the educational level "13 years with 1 year of college equivalency" is influenced by the small number of persons in this category--that is, 52.)

Table 16 displays the attrition rates by year of accession and varying lengths of service. The selection of the length of service was made to maximize the "maturity" level in the data base to the specific year of accession. Although there are few scattered peculiarities within this table (probably due to changes in reporting systems and, again, the small number of recruits in specific cells), the observable trends remain the same. They are:

1. The recruit who is a high school graduate with a diploma has the lowest attrition rate (24.1 percent in 1978 to 9.9 percent in 1983).
2. The recruit with 10 years of education generally has the highest attrition rate (44.6 percent in 1978 to 20.8 percent in 1983).
3. The attrition rate among the GED recipients (41.6 percent in 1978 to 20.8 percent in 1983) is exceptionally high. However, it is still less than the recruit with 10 years of education.
4. Recruits with 13 or more years of schooling fare better than many recruits who are "high school graduates"

Table 15

Percent Attrition During First Two Years
Among Male Nonprior Service Accessions
Who Entered the Marine Corps between FY 1978-83,
by Level of Education and AFQT Category^a

Level of Education (Years)	AFQT				Total
	I/II	IIIA	IIIB	IV	
7 Through 9	46.4	50.7	62.2	51.4	53.9
10 Years	31.2	32.4	36.3	39.6	34.7
11 Years	27.5	29.8	31.1	32.7	30.1
12 with No Certification	23.9	24.8	26.0	29.9	26.6
12 with H.S. Diploma	14.0	15.7	17.2	21.9	17.0
12 with GED	29.7	32.5	33.0	39.1	32.3
12 with H.S. Certificate of Completion	19.2	24.5	23.7	25.7	23.9
12 with Vocational Certificate of Attendance	29.1	22.2	33.0	26.2	28.3
12 with Academic Certificate of Attendance	17.2	18.3	20.4	25.6	21.0
13 with 1st Year of College Equivalency	10.7	14.3	50.0	9.1	15.4
13 with College Certificate of Attendance	13.3	20.6	22.2	28.3	17.4
14 with AA Degree	13.1	16.9	18.3	26.3	15.3
14 with College Certificate of Attendance	13.9	16.4	22.5	30.8	18.4

Table 15 (continued)

Level of Education (Years)	AFQT				Total
	I/II	IIIA	IIIB	IV	
15 with College Certificate of Attendance	18.8	25.3	22.3	37.5	21.9
16 with BA Degree	13.2	18.7	26.3	31.7	17.5
16 with College Certificate of Attendance	20.4	19.2	37.5	22.2	22.1
All Levels	17.3	20.8	22.5	24.7	21.1

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a Nonprior service accessions shown here entered active duty between 1 October 1978 and 1 April 1983. Attrition is recorded as of 31 March 1983. Thus, potential length of service varies; and only persons who entered between October 1978 and March 1981 have had the opportunity to serve at least 2 years.

(those with certificates of completion, vocational and academic certificates of attendance), but not as well as recruits who are high school graduates and have a diploma.

Table 17 shows attrition rates for the entire period of the data base by age, level of education, and a two-year length of service. Using the historical rate of attrition (as discussed in the methodology section), attrition over 30 percent has been underlined in the Table. The possibility for misleading attrition rates caused from the lack of "mature" data and cell sizes should be kept in mind when reviewing this table in any more detail than general trends.

Table 16

Percent Attrition Among Male Nonprior Service
Accessions Who Entered the Marine Corps between FY 1978-83
by Level of Education, Year of Accession and Length of Service

Level of Education (Years)	Year of Accession and Length of Service					
	1978 0-3yrs	1979 0-3yrs	1980 0-2yrs	1981 0-1yr	1982 0-6mon	1983 0-3mon
7 Through 9	55.1	64.4	66.7	83.3 ^b	100.0 ^b	0 ^b
10 Years	44.6	46.6	36.4	29.4	28.7	20.8
11 Years	37.2	41.5	31.5	23.3	27.6	17.3
12 with No Certification	0 ^a	0 ^b	28.4	19.7	25.1	21.2
12 with H.S. Diploma	24.1	23.7	18.7	14.5	13.8	9.9
12 with GED	41.6	44.3	31.5	27.2	29.2	20.8
12 with H.S. Certificate of Completion	32.1	34.5	24.8	25.8	16.1	18.5
12 with Vocational Certificate of Attendance	0 ^a	0 ^a	32.8	25.0	18.5	14.3
12 with Academic Certificate of Attendance	0 ^b	32.8	26.7	21.6	19.2	15.7
13 with 1st Year of College Equivalency	45.5	0 ^b	10.0	0 ^b	0 ^a	0 ^b
13 with College Certificate of Attendance	24.1	22.3	20.1	16.9	14.2	9.6
14 with AA Degree	16.2	29.8	23.5	15.5	11.6	6.2
14 with College Certificate of Attendance	23.4	25.6	17.3	18.1	16.9	7.9

Table 16 (continued)

Level of Education (Years)	Year of Accession and Length of Service					
	1978 0-3yrs	1979 0-3yrs	1980 0-2yrs	1981 0-1yr	1982 0-6mon	1983 0-3mon
15 with College Certificate of Attendance	29.3	36.6	24.3	20.2	16.8	8.3
16 with BA Degree	28.9	19.5	12.2	18.6	13.5	10.8
16 with College Certificate of Attendance	25.0	57.2	23.1	13.3	17.0	9.5
All Levels	29.2	30.2	23.1	17.7	16.7	11.7

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a No recruits accessed with this educational credential.

b Seven or less recruits accessed with this educational credential.

Observations

1. There is a "diagonal" appearance to Table 17 with respect to the underlined attrition rates: the lower the educational level and the lower the age, the higher the attrition rate. Conversely, the older the recruit and the higher the level of education, the greater the rate of attrition.

2. The older the recruit, the higher the attrition rate. The recruit who is a high school graduate with a diploma, and is 18 years at the time of enlistment, has an attrition rate of 13.8 percent. Recruits with the same

Table 17

Percent Attrition Among Male Nonprior Service Accessions
Who Entered the Marine Corps between FY 1978-83 by
Level of Education, Age, and a 2 Year Length of Service^a

Level of Education (Years)	Age						Total
	17	18	19	20	21-26	27+	
7 Through 9	<u>48.5</u>	<u>55.9</u>	<u>51.9</u>	<u>82.4</u>	<u>66.7</u>	0	53.9
10 Years	<u>32.2</u>	<u>34.3</u>	<u>37.2</u>	<u>42.1</u>	<u>47.3</u>	<u>58.6</u>	34.7
11 Years	28.6	28.7	29.8	<u>33.2</u>	<u>39.5</u>	<u>55.7</u>	30.1
12 with No Certification	23.4	23.4	27.7	<u>31.5</u>	<u>39.0</u>	<u>46.2</u>	26.6
12 with H.S. Diploma	13.8	13.8	17.7	21.5	27.8	<u>33.8</u>	17.0
12 with GED	<u>30.6</u>	<u>38.3</u>	<u>31.8</u>	<u>33.2</u>	<u>39.9</u>	<u>46.9</u>	32.3
12 with H.S. Certificate of Completion	21.0	21.8	25.1	27.8	<u>34.6</u>	<u>33.3</u>	23.9
12 with Vocational Certificate of Attendance	25.7	22.5	<u>32.9</u>	<u>37.5</u>	<u>42.1</u>	<u>100</u>	28.3
12 with Academic Certificate of Attendance	18.3	18.9	22.7	22.2	29.3	28.6	20.9
13 with 1st Year of College Equivalency	0	0	14.3	8.3	21.7	0	15.4
13 with College Certificate of Attendance	27.3	15.2	13.7	14.1	21.8	<u>38.2</u>	17.4
14 with AA Degree	0	0	3.6	6.1	17.1	<u>40.0</u>	15.3
14 with College Cert. of Attendance	0	20.0	15.7	12.1	20.2	<u>32.8</u>	18.4

Table 17 (continued)

Level of Education (Years)	Age						Total
	17	18	19	20	21-26	27+	
15 with College Cert. of Attendance	0	<u>33.3</u>	0	16.0	20.9	<u>32.7</u>	21.9
16 with BA Degree	0	0	0	0	16.3	24.8	17.5
16 with College Cert. of Attendance	0	0	0	0	20.3	<u>35.0</u>	22.1
All Levels	23.6	17.3	20.5	23.7	28.9	36.9	21.1

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a Underlined attrition rates indicate attrition greater than the historical rate as discussed in the methodology section of the Scope, Objective, and Methodology chapter.

educational credential who were 27 years or older at the time of entry have an attrition rate of 33.8 percent (a two - to threefold increase). The recruit who is not a high school graduate likewise has a 20 percent (or more) increase in attrition between the age of 18 and 27 or older. An important distinction however, is that the attrition rates for those who are non-high school graduates are not the same initially. Even though the increase in attrition and corresponding age are proportionately the same, high school graduates with a diploma have an overall lower initial rate of attrition (17.0 percent) than non-high school graduates (26.6 percent for those with 12 years of education and no

certification, 30.1 percent for persons with 11 years of education, and 34.7 percent for those with 10 years of education).

3. With the exception of the 17 year old recruit (whose overall attrition rate after 2 years of service is 23.6 percent), the older the recruit upon entry into the Marine Corps, the higher the attrition rate (18 years old at 17.3 percent, 19 years at 20.5 percent; 20 years at 23.7 percent; 21-26 years at 28.9 percent; and 27 or older at 36.9 percent).

Implications. Table 17 shows that recruits who are considered non-high school graduates generally have attrition rates that are higher than the historical rate. At the same time, recruits with 13 or more years of schooling who are 27 years or older also experience attrition rates that are higher than the historical rate. (One exception here is the recruit with a vocational certificate of attendance--but this is discounted due to the relatively small cell size. The relationship between age, education level, and first-term attrition supports the position that an 18-year-old high school graduate (with diploma) should be considered the most "preferred" applicant for the Marine Corps.

Appendix D provides a detailed attrition analysis by year, age, educational level, and length of service. Trends from this appendix match those in Table 17. Exceptions are in the older ages and higher levels of education where

misleading attrition rates may result from the small cell size.

Table 18 presents attrition rate by each year of the data base, level of education, and cause. The attributed causes of attrition are necessary to assist in presenting a thorough picture of this performance indicator. Inter-service Separation Codes (ISC) are divided and grouped into six categories for this thesis. They are:

- 0 - Release from Active Duty
- 1 - Medical Disqualifications
- 2 - Dependency or Hardship
- 3-5 - Death, Entry into Officer Programs, and Retirement (other than medical)
- 6-8 - Failure to meet Minimum Behavioral or Performance Criteria
- 9 - Other Separations or Discharges

ISC categories 0, 1, 2, and 3-5 are presented in the table for information and clarification. Since they are related to reasons that are usually beyond the control of the individual--or may not be perceived negatively (such as entry into an officer program)--they might not be deemed as "nonadverse" performance variables of attrition. If the definition of attrition is separation or discharge from the service prior to tour completion through the member's own performance (usually adverse), then ISC categories 6-8 and 9 should receive particular attention. (The attrition rates that occurred for ISC categories 6-8 and 9 are therefore underlined in Table 18.)

Table 18

Percent Attrition Among Male Nonprior Service
Accessions Who Entered the Marine Corps between FY
1978-83, by Cause of Attrition,
and a Three-Year Service Length

Level of Education (Years) and Cause of Attrition	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
7 Through 9						
<u>Cause</u> ^b						
0	7.0	6.8	7.4	0	0	0
1	4.5	1.7	3.7	0	0	0
2	0	0	0	0	0	0
3-5	0	1.7	0	0	0	0
6-8	35.5	37.3	33.4	0	50.0	0
9	15.2	23.7	33.3	83.3	50.0	0
10 Years						
<u>Cause</u>						
0	11.2	11.3	6.2	0.2	0.1	0
1	3.3	3.0	2.9	1.7	1.5	2.7
2	0.3	0.1	0.2	0.1	0	0
3-5	0.4	0.5	0.3	0.2	0	0
6-8	32.5	37.5	38.3	31.5	19.0	16.6
9	6.7	5.7	5.5	6.9	11.0	1.2
11 Years						
<u>Cause</u>						
0	12.5	12.3	6.0	0.2	0.1	0
1	3.4	4.2	3.1	1.6	1.1	2.9
2	0.2	0.3	0.2	0	0.1	0
3-5	0.3	0.4	0.6	0	0.1	0
6-8	27.6	32.4	32.6	25.4	20.3	13.5
9	5.7	4.9	5.3	6.0	10.8	1.0
12 with No Certification						
<u>Cause</u>						
0	0	0	0.3	0.2	0	0
1	0	0	2.5	1.1	0.7	6.1
2	0	0	0.3	0	0	0
3-5	0	0	0.3	0.2	0.1	0
6-8	0	0	28.8	20.2	13.8	15.2
9	0	0	3.7	4.9	11.8	0

Table 18 (continued)

Level of Education (Years) and Cause of Attrition	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
12 with H.S. Diploma						
<u>Cause</u>						
0	12.2	12.6	3.3	8.2	0	0
1	4.5	4.1	2.96	1.6	0.1	1.8
2	0.5	0.3	0.3	0.1	0	0
3-5	0.4	0.5	0.4	0.2	0.1	0
6-8	<u>14.8</u>	<u>16.0</u>	<u>15.7</u>	<u>12.5</u>	<u>9.2</u>	<u>7.5</u>
9	4.0	3.0	3.7	4.1	4.9	0.7
12 with GED						
<u>Cause</u>						
0	8.3	9.6	5.5	0.1	0	0
1	3.7	4.0	3.3	1.7	0.6	3.3
2	0.5	0.2	0.2	0.2	0.1	0
3-5	0.7	0.5	0.4	0.1	0.1	0
6-8	<u>30.6</u>	<u>32.9</u>	<u>33.4</u>	<u>26.6</u>	<u>20.4</u>	<u>16.7</u>
9	6.3	6.8	5.6	7.8	11.0	1.1
12 with H.S. Cert. of Completion						
<u>Cause</u>						
0	13.5	13.5	2.2	0	0	0
1	4.3	5.0	3.6	0	0	3.7
2	0.4	0.1	0	0	0	0
3-5	0	0.4	0.5	0	0	0
6-8	<u>22.7</u>	<u>24.4</u>	<u>6.2</u>	<u>25.8</u>	<u>9.7</u>	<u>14.8</u>
9	4.9	4.4	5.4	12.1	6.5	0
12 with Vocational Certificate of Attendance						
<u>Cause</u>						
0	0	0	0	0	0	0
1	0	0	2.3	0	3.1	0
2	0	0	0.8	0	0	0
3-5	0	0	0	0	0	0
6-8	<u>0</u>	<u>0</u>	<u>28.4</u>	<u>27.5</u>	<u>15.4</u>	<u>14.3</u>
9	0	0	10.5	2.5	1.5	0

Table 18 (continued)

Level of Education (Years) and Cause of Attrition	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
12 with Academic Certificate of Attendance						
<u>Cause</u>						
0	0	10.8	6.4	0.3	0	0
1	0	3.9	2.7	1.6	0.7	2.1
2	0	0.1	0	0	0	0
3-5	0	0.1	0	0.3	0	0
6-8	0	<u>25.7</u>	<u>26.2</u>	<u>23.5</u>	<u>15.2</u>	<u>12.1</u>
9	0	3.0	5.2	2.6	3.9	1.7
13 with 1st Year of College Equivalency						
<u>Cause</u>						
0	27.3	14.3	3.3	0	0	0
1	18.1	0	3.3	0	0.6	0
2	0	0	0	0	0	0
3-5	0	0	0	0	0	0
6-8	<u>18.2</u>	0	<u>6.7</u>	0	<u>8.1</u>	0
9	9.1	0	3.3	0	5.9	0
13 with College Certificate of Attendance						
<u>Cause</u>						
0	13.5	12.9	6.6	0.3	0	0
1	5.1	4.4	4.0	2.7	0.6	3.0
2	0.5	0.4	0.2	0.2	0	0
3-5	0.9	0.9	0.4	0.7	0.2	0
6-8	<u>13.2</u>	<u>13.2</u>	<u>13.9</u>	<u>12.0</u>	<u>8.1</u>	<u>5.6</u>
9	4.8	3.8	4.1	5.3	5.9	1.3
14 with AA Degree						
<u>Cause</u>						
0	14.7	8.8	3.5	0	0.8	0
1	1.5	3.5	3.5	3.5	1.6	2.1
2	0	1.8	1.2	0	0	0
3-5	0	1.8	7.1	0	0	0
6-8	<u>7.4</u>	<u>14.1</u>	<u>13.0</u>	<u>13.8</u>	<u>7.8</u>	<u>4.1</u>
9	7.4	8.8	7.1	0	3.9	0

Table 18 (continued)

Level of Education (Years) and Cause of Attrition	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
14 with College Certificate of Attendance						
<u>Cause</u>						
0	11.3	9.1	7.2	0.6	0	0
1	7.0	5.2	4.3	3.1	0.1	1.1
2	0.7	0.8	0.4	0.3	0.3	0
3-5	4.8	4.4	2.2	1.4	0	0
6-8	<u>10.2</u>	<u>13.4</u>	<u>14.4</u>	<u>14.1</u>	<u>12.4</u>	<u>6.8</u>
9	5.5	5.5	4.0	4.8	5.9	0.4
15 with College Certificate of Attendance						
<u>Cause</u>						
0	10.6	13.9	5.0	0	0	0
1	4.9	10.0	2.2	4.3	1.5	0
2	0	0	1.4	0	0	0
3-5	3.3	4.0	2.9	1.4	0.7	0
6-8	<u>19.5</u>	<u>17.9</u>	<u>16.4</u>	<u>19.5</u>	<u>9.5</u>	<u>7.2</u>
9	4.9	8.9	6.4	1.4	6.6	1.0
16 with BA Degree						
<u>Cause</u>						
0	6.7	7.3	5.4	2.1	0	0
1	5.6	7.3	1.4	2.1	0.9	4.3
2	0	0	0	0	0	0
3-5	20.0	26.8	12.2	11.5	1.8	0
6-8	<u>17.8</u>	<u>8.5</u>	<u>9.5</u>	<u>16.7</u>	<u>8.4</u>	<u>3.2</u>
9	5.6	3.7	2.7	0	6.7	3.2
16 with College Certificate of Attendance						
<u>Cause</u>						
0	37.5	0	0	0	0	0
1	12.5	0	3.9	2.2	6.4	0
2	0	0	0	0	0	0
3-5	0	14.3	7.7	4.5	2.1	0
6-8	<u>12.5</u>	<u>28.6</u>	<u>15.4</u>	<u>17.8</u>	<u>4.3</u>	<u>9.5</u>
9	0	28.6	3.9	4.5	10.6	0

Table 18 (continued)

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Data Manpower Center.

a Nonprior service accessions entered active duty between 1 October 1978 and 1 April 1983. Attrition is recorded as of 31 March 1983. Thus, potential length of service varies; and only persons who entered between October 1978 and March 1980 have had the opportunity to serve at least 3 years.

b Number codes for cause of attrition are Interservice Separation Codes (ISC) used by the Department of Defense. See text for explanation.

Observations.

1. The primary cause of early separation from the Marine Corps is the failure of many enlistees to meet the minimum behavioral/performance standards. The recruit who has 10, 11, or 12 years of education and is not a high school graduate, has an average attrition rate resulting from the failure to meet behavioral/performance standards higher than for any other reason (10 years at 32.5 percent, 11 years at 28.9 percent, 12 years with no certification at 21.9 percent). Even persons who are considered to be the more "preferred" Marine recruit (an individual who is a high school graduate with a diploma), have an attrition rate of 13.1 percent for behavioral or performance reasons, higher than for any other reason.

2. The same trends are present in this table as in Table 14. Attrition rates for high school graduates with diplomas and persons with college attendance are consistently

lower than the rates for persons in other categories. For example, it is seen that recruits who are discharged for failure to meet minimum behavioral/performance standards, have average attrition rates that decrease correspondingly with increase in educational level, as follows:

12 years with a high school
certificate of completion ----- 23.0 percent attrition

12 years with a vocational
certificate of attendance ----- 24.6 percent attrition

12 years with an academic
certificate of attendance ----- 19.1 percent attrition

13 years with a certificate
of college attendance ----- 11.1 percent attrition

13 years with one year of
college equivalency ----- 7.7 percent attrition

Implications. The several subgroups and actual instances of performance that constitute "Failure to meet Minimum Behavioral or Performance Criteria" and "Other Separations or Discharges" (ISC codes 6-8 and 9), resulting in separation prior to completion of initial active service, are unknown. It is known, however, that persons in these categories have generally demonstrated that they are unfit for military service. Furthermore, this failure to complete a full enlistment is a costly burden for the Marine Corps.

Table 19 displays the pay grade held by an individual at the time of separation (or as of 31 March 1983), attrition by level of education, and year of accession. The best way to view this table is to compare the percent of attrition

for each pay grade with the total accessions for the specific fiscal year and level of education.

Observations.

1. In examining the recruits and their educational levels that contributed the largest proportion of accessions, the probable rank obtained prior to separation in several educational categories was determined. The following shows the probable (or modal) rank of male Marines within each educational category at the time of separation (separation for any reason):

Educational Level: Most Likely Rank Obtained Prior to Separation

- 10 years of education: E-1
- 11 years of education: E-2
- 12 years with high school diploma: E-3 or E-4
- 12 years with GED: E-1 or E-2
- 12 years with an Academic Certificate of Completion: E-2
- 13 or more years with a College Certificate of Attendance: E-4

2. As Table 19 indicates, the lower the level of education, the lower the likelihood of achieving higher rank prior to separation. Recruits who are high school graduates with diplomas, and those with more than 13 years of education and a college certificate of attendance, are more likely to achieve higher rank (E-3 and above) prior to their separation.

Table 19

Percent Attrition Among Nonprior Service
Accessions Who Entered the Marine Corps by
Level of Education, Pay Grade at Time of Separation
(or as of 31 March 1983), and Year of Accession^a

FY 1978

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
7 Through 9	0.2	0.1	0.1	0	0	0.4
10 Years	5.8	2.5	2.6	2.0	1.2	14.1
11 Years	3.6	1.5	2.0	2.0	1.2	10.3
12 with No Certification	0	0	0	0	0	0
12 with H.S. Diploma	11.6	7.2	11.4	19.6	17.5	67.3
12 with GED	1.1	0.6	0.6	0.6	0.5	3.4
12 with H.S. Certificate of Completion	0.3	0.2	0.2	0.2	0.1	1.0
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	0	0	0	0	0	0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.2	0.2	0.2	0.4	0.6	1.6
14 with AA Degree	0	0	0	0	0.1	0.1
14 with College Certificate of Attendance	0.1	0.1	0.1	0.2	0.4	0.9

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
15 with College Certificate of Attendance	0	0.1	0	0.1	0.2	0.4
16 with BA Degree	0	0.1	0	0.1	0.1	0.3
<u>FY 1979</u>						
7 Through 9	0.1	0	0	0	0	0.1
10 Years	6.3	2.3	2.9	2.6	0.7	14.8
11 Years	2.5	1.5	2.0	2.2	0.7	8.9
12 with No Certification	0	0	0	0	0	0
12 with H.S. Diploma	10.4	6.2	11.4	24.2	10.3	62.5
12 with GED	1.2	0.5	0.5	0.6	0.3	3.1
12 with H.S. Certificate of Completion	0.9	0.5	0.8	0.9	0.2	3.3
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	0.8	0.5	0.7	0.9	0.2	3.1
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.2	0.2	0.2	0.5	0.5	1.6
14 with AA Degree	0	0	0	0	0.1	0.1

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
14 with College Certificate of Attendance	0.1	0.1	0.1	0.2	0.2	0.7
15 with College Certificate of Attendance	0	0.1	0	0.1	0.1	0.3
16 with BA Degree	0	0	0	0	0.1	0.1
<u>FY 1980</u>						
7 Through 9	0.1	0	0	0	0	0.1
10 Years	5.0	2.0	3.1	2.1	0.2	12.4
11 Years	2.9	1.3	2.3	1.9	0.1	8.5
12 with No Certification	1.0	0.4	1.1	0.7	0	3.2
12 with H.S. Diploma	10.7	6.3	19.6	25.6	2.6	64.8
12 with GED	1.1	0.5	0.8	0.8	0	3.2
12 with H.S. Certificate of Completion	0.8	0.5	1.1	0.7	0	3.1
12 with Vocational Certificate of Attendance	0.1	0	0.1	0.1	0	0.3
12 with Academic Certificate of Attendance	0.4	0.2	0.3	0.2	0	1.1
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.1	0.2	0.3	0.7	0.2	1.5

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
14 with AA Degree	0	0	0	0.1	0	0.1
14 with College Certificate of Attendance	0.1	0.1	0.1	0.3	0.1	0.7
15 with College Certificate of Attendance	0	0.1	0.1	0.1	0.1	0.4
16 with BA Degree	0	0	0	0.1	0.1	0.2
<u>FY 1981</u>						
7 Through 9	0	0	0	0	0	0
10 Years	4.0	1.4	3.9	0.5	0	9.8
11 Years	2.7	1.2	3.6	0.6	0	8.1
12 with No Certification	1.4	0.6	2.7	0.3	0	5.0
12 with H.S. Diploma	11.1	6.1	39.3	10.7	0.2	67.4
12 with GED	1.5	0.6	1.7	0.4	0	4.2
12 with H.S. Certificate of Completion	0.1	0	0.1	0	0	0.2
12 with Vocational Certificate of Attendance	0.1	0	0.1	0	0	0.2
12 with Academic Certificate of Attendance	0.3	0.1	0.5	0.1	0	1.0
13 with 1st Year of College Equivalency	0	0	0	0	0	0

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
13 with College Certificate of Attendance	0.2	0.3	0.8	0.7	0	2.0
14 with AA Degree	0	0	0	0.1	0.1	0.2
14 with College Certificate of Attendance	0.1	0.2	0.3	0.4	0	1.0
15 with College Certificate of Attendance	0	0.1	0.1	0.1	0	0.3
16 with BA Degree	0	0	0.1	0.1	0	0.2
<u>FY 1982</u>						
7 Through 9	0	0	0	0	0	0
10 Years	2.7	2.6	1.5	0	0	6.8
11 Years	1.9	2.0	1.3	0	0	5.2
12 with No Certification	0.7	0.8	0.7	0	0	2.2
12 with H.S. Diploma	13.1	35.6	19.0	0.1	0	67.8
12 with GED	1.5	1.7	0.9	0	0	4.1
12 with H.S. Certificate of Completion	0.1	0	0	0	0	0.1
12 with Vocational Certificate of Attendance	0.1	0.1	0	0	0	0.2
12 with Academic Certificate of Attendance	1.1	2.8	0.5	0	0	4.4

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0.2	0.7	1.0	0.1	0	2.0
14 with AA Degree	0.1	0.2	0.1	0	0	0.4
14 with College Certificate of Attendance	0.4	0.6	0	0	0	1.0
15 with College Certificate of Attendance	0	0.1	0.2	0	0	0.3
16 with BA Degree	0	0.1	0.2	0	0	0.3
<u>FY 1983 (Apr)</u>						
7 Through 9	0	0	0	0	0	0
10 Years	5.5	0.7	0	0	0	6.2
11 Years	3.7	0.6	0	0	0	4.3
12 with No Certification	0.2	0.1	0	0	0	0.3
12 with H.S. Diploma	56.8	14.3	0.2	0	0	71.3
12 with GED	4.0	0.5	0	0	0	4.5
12 with H.S. Certificate of Completion	0	0	0	0	0	0.1
12 with Vocational Certificate of Attendance	0.1	0	0	0	0	0.1

Table 19 (continued)

Level of Education (Years)	Pay Grade					Total ^b
	E-1	E-2	E-3	E-4	E-5	
12 with Academic Certificate of Attendance	4.9	0.7	0	0	0	5.6
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	1.1	1.8	0	0.1	0	2.9
14 with AA Degree	0.1	0.7	0.1	0	0	0.9
14 with College Certificate of Attendance	0.3	1.3	0	0	0	1.6
15 with College Certificate of Attendance	0.1	0.5	0	0	0	0.6
16 with BA Degree	0	0.5	0	0	0	0.5

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a "Maturity" of data for fiscal years 1982 and 1983 is limited. Recruits in these fiscal years have not had the length of service that is equivalent to the accessions from 1978 to 1981.

b Slight differences in percentage totals within each level of education and percentage totals in other tables is due to mathematical rounding.

Recent changes in the system for reporting the level of education for new recruits makes it possible to review attrition and other personal variables within additional categories. Table 20 shows the attrition rates for male non-prior service recruits who entered active duty between FY 1980-82. This Table compares attrition rates between the data sources used in this research and DoD-publicized rates.

Observations

1. The rates of attrition within the specific levels of education do not vary significantly between the data used for this research and that maintained by DoD. In 1980, the average difference between the two sources was 2 to 4 percentage points. Exceptions are: recruits with a vocational certificate of attendance, where there was a nearly 12-point difference (DoD 30.1 percent and this research at 41.8 percent); and in the other/unknown category, where there is a 16.7 percentage point difference (DoD at 36.7 percent and this research at 20.0 percent).

2. In 1981 and 1982, there are also several differences, though in isolated areas, between DoD attrition rates and those presented in this research. However, for all 3 years, the total attrition rate for all levels was virtually the same (DoD at 28.9 percent, 22.7 percent, 17.7 percent, respectively; and this research at 28.9 percent, 22.7 percent, and 17.8 percent, respectively).

Table 20

Comparison of Data for Thesis Research and Data Maintained by
DoD: Percent Attrition During First Three Years of Active Duty
Among Male Nonprior Service Accessions Who Entered the
Marine Corps Between FY 1980-82, by Level of Education

Level of Education	1980		1981	
	Thesis Research	DoD Data	Thesis Research	DoD Data
Less than 12 Years with No Diploma or Equivalency	44.9 (7,997)*	44.9 (7,854)*	31.5 (6,743)*	35.8 (6,359)*
12 Years with Certificate from Elem., Jr. High	35.3 (1,248)	37.2 (70)	25.7 (1,888)	23.4 (124)
12 Years with H.S. Diploma	22.8 (24,730)	22.9 (25,365)	18.2 (25,202)	18.3 (25,932)
12 Years or Less With Certificate of Equivalency	42.8 (1,251)	42.5 (1,387)	35.7 (1,573)	38.0 (1,667)
12 Years with Cert. of Completion	31.5 (1,140)	35.6 (87)	31.8 (66)	32.1 (53)
12 Years with Vocational Certificate of Attendance	41.8 (134)	30.1 (176)	30.0 (80)	34.0 (156)
12 Years with Academic Certificate of Attendance	33.9 (409)	33.8 (2,566)	27.9 (380)	26.7 (2,164)
13 Years or more	22.4 (1,199)	20.7 (977)	21.0 (1,400)	19.1 (1,210)
Other/Unknown	20.0 (15)	36.7 (30)	44.4 (9)	34.8 (23)
<u>All Levels</u>	28.9 (38,123)	28.9 (38,512)	22.7 (33,335)	22.7 (37,688)

Source: Derived from data provided by Headquarters, Marine Corps
and the Defense Manpower Data Center.

* Numbers in parentheses show the total number of male nonprior service accessions (at the indicated level of education) who entered active duty during FY 1980 and 1981 as reported by the respective Military Services.

Table 20 (continued)

Comparison of Data for Thesis Research and Data Maintained by DoD: Percent Attrition During First Three Years of Active Duty Among Male Nonprior Service Accessions Who Entered the Marine Corps Between FY 1980-82, by Level of Education

Level of Education	1982	
	Thesis Research	DoD Data
Less than 12 Years with No Diploma or Equivalency	34.2 (4,055)*	30.3 (4,065)*
12 Years with Certificate from Elem., Jr. High	26.1 (756)	25.6 (78)
12 Years with H.S. Diploma	14.6 (24,372)	14.6 (24,833)
12 Years or Less with Certificate of Equivalency	31.2 (1,406)	31.2 (1,388)
12 Years with Cert. of Completion	16.1 (31)	16.1 (56)
12 Years with Vocational Certificate of Attendance	20.0 (65)	21.1 (176)
12 Years with Academic Certificate of Attendance	19.6 (1,492)	21.9 (2,147)
13 Years or more	16.1 (1,496)	15.3 (1,318)
Other/Unknown	0.0 (2)	41.7 (12)
<u>All Levels</u>	17.8 (33,675)	17.9 (34,025)

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

* Numbers in parentheses show the total number of male nonprior service accessions (at the indicated level of education) who entered active duty during FY 1980 and 1981 as reported by the respective Military Services.

3. There are relatively pronounced differences between the data used in the thesis and DoD data is seen in the cell sizes (number of recruits who possess the different educational credentials). In 1980, DoD data shows that there were 70 persons enlisted with 12 years of education and a certificate from an elementary or junior high school; in contrast, the data for this research shows that 1,248 fell in this category; 12 years and an academic certificate of attendance, DoD shows 2,566 recruits; this research shows 409 recruits. In 1981 and 1982, further differences in cell sizes can be seen.

Implications. While the number of recruits in educational categories varied somewhat between FY 1980 to 1982 in DoD figures and the data used for this research, the attrition rates from the two sources are quite similar.

D. SUMMARY OF ANALYSIS

A synopsis of the personal descriptive and performance variables used in this chapter are presented on Tables 21 and 22, respectively. Both tables separate the 16 educational categories into two groups, high school graduates and non-high school graduates. Both of these educational groups and their component categories are based on the definitions of educational levels currently used by the Marine Corps in determining the eligibility of male applicants for enlistment.

Attrition is listed first among the performance variables on Table 22 because it is generally recognized as the most important (and the most easily identifiable) indicator of performance. It is interesting to note that, within the data base used for this research (1978-83), there is a difference of only 6 percentage points between the educational categories with the highest attrition rate (Vocational Certificate of Attendance) in the high school graduate group and the category with the highest attrition rate (GED) in the non-high school graduate group.

A further refinement in the causes of attrition are those individuals who leave the service prior to completing their initial enlistment for "adverse" reasons. Attrition rates for adverse reasons can also be seen in Table 22. Death, medical disability, and entry into the various officer programs are some of the peripheral reasons for enlisted personnel losses that are normally included in "general" attrition rates. These kinds of attrition have been removed from the adverse attrition rate provided in the table. As Table 22 shows, adverse attrition accounts for approximately three-quarters of all general attrition. For example, the general attrition rate for recruits who are high school graduates (with a diploma) is 17 percent, while adverse attrition accounts for 14.6 percent.

There are substantial differences in the general attrition rates between the two major educational groups (high

Table 21

Personal Descriptive Variables Among Male Nonprior Service
Accessions Who Entered the Marine Corps between
FY 1978-83, by High School Graduate,
Non-High School Graduate, and Level of Education

Level of Education (Years)	Percent Scoring Above 50th Percentile on AFQT	Mean Age At Entry	Percent Single	Number of Accessions (Thousands)	Percent Needing Moral Waivers
<u>High School Graduates</u>					
12 with H.S. Diploma	49.9	18.8	96.3	132.4	47.4
12 with H.S. Certificate of Completion	40.6	18.6	96.2	2.8	45.2
12 with Vocational Certificate of Attendance	44.0	18.6	94.9	0.3	43.3
12 with Academic Certificate of Attendance	43.2	18.7	97.2	4.3	44.2
Nonhigh School Graduate with 1st Year College	Not Avail.	Not Avail.	94.2	0.1	Not Avail.
13 or more years of schooling	66.9	21.6	89.3	7.4	64.5
<u>Nonhigh School Graduates</u>					
10 Years	48.8	17.9	96.6	22.0	41.3
11 Years	50.6	18.3	96.1	15.9	37.5
GED	55.6	19.1	92.2	7.3	57.8
12 years no Certification	43.2	18.7	96.7	3.9	45.7

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

Table 21 (continued)

Personal Descriptive Variables Among Male Nonprior Service
Accessions Who Entered the Marine Corps between
FY 1978-83, by High School Graduate,
Non-High School Graduate, and Level of Education

Level of Education (Years)	AFQT	AFQT	Racial		Census	
	Category	Category	Ethnic Grp		Region	
	Highest Attrition	Lowest Attrition	White (Percent)	Black	Most Common	Least
<u>High School Graduates</u>						
12 with H.S. Diploma	IV	I/II	68.4	22.8	North Central	West
12 with H.S. Certificate of Completion	IV	I/II	55.2	28.8	North Central	North East
12 with Vocational Certificate of Attendance	IIIB	IIIA	57.3	25.3	South	North East
12 with Academic Certificate of Attendance	IV	I/II	58.3	30.9	North East	West
Nonhigh School Graduate with 1st College	IIIB	IV	Not Avail.		Not Avail.	
13 or more years of schooling	IV	I/II	67.7	23.6	South	West
<u>Nonhigh School Graduates</u>						
10 Years	IV	I/II	76.8	14.9	North Central	West
11 Years	IV	I/II	74.0	17.4	North Central	North East
GED	IV	I/II	77.8	12.6	South	West
12 years no Certification	IV	I/II	59.6	30.1	North Central	West

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

Table 22

Performance Variables Among Male Nonprior Service
Accessions Who Entered the Marine Corps between
FY 1978-83, by High School Graduate
Non-High School Graduate, and Level of Education

Level of Education (Years)	Percent Attrition After 2 yrs of Service	Percent Adverse ^a Attrition After 2 yrs	Percent Separated/ Eligible Reenlist	Most Frequent Character of Service	Rank at Separation
<u>High School Graduates</u>					
12 with H.S. Diploma	17.0	14.6	32.4	Hon.	E-3 to E-4
12 with H.S. Certificate of Completion	23.9	20.2	23.5	Hon.	E-1
12 with Vocational Certificate of Attendance	28.3	26.3	4.1	Hon.	E-2
12 with Academic Certificate of Attendance	20.9	18.37	14.7	Hon.	E-1 to E-2
Non-High School Graduate with 1st year College	15.4	9.6	33.3	Not Avail.	E-3
13 or more years of schooling	17.6	14.76	24.9	Hon.	E-4
<u>Non-High School Graduates</u>					
10 Years	34.7	32.2	18.2	Hon.	E-1
11 Years	30.0	27.5	21.1	Hon.	E-2
GED	32.3	29.8	17.0	Hon.	E-1 to E-2
12 years no Certification	26.6	25.1	8.3	Hon. 9	E-1

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

^a Adverse attrition includes the following interservice separation codes (ISC): Failure to meet minimum behavioral criteria, failure to meet minimum performance criteria, and other separations or discharges.

school graduates and non-high school graduates). There are also some noteworthy differences within these two major categories, when the attrition rates for persons with separate types of educational credentials are compared. The recruit whose attrition rate is the lowest (15.4 percent) is a non-high school graduate with 1 year of college, and he accounts for the smallest number of persons (52) who enlisted between 1978-83. The recruit whose attrition rate is the highest (34.7 percent) has 10 years of schooling and represents the second largest group of recruits (22,012) who enlisted during the period of the data base.

From Table 21, it can be seen that persons in AFQT category IV suffer the greatest rate of attrition, and those in Categories I and II experience the lowest rate. Two exceptions are noted, both found in the educational group considered "high school graduates": persons with vocational certificates of attendance and those who are non-high school graduates with one year of college. It is noted that AFQT scores are a condition of enlistment that is influenced by educational category. "Nongraduates" are required, because of their graduation status, to have higher AFQT scores than their counterparts who "finished" high school.

Recruits whose educational credentials are currently considered high school graduates generally have higher reenlistment eligibility rates than those who are considered nongraduates. With the exception of the recruits who

possess vocational and academic certificates of attendance (whose reenlistment eligibility is 4.1 percent and 14.7 percent, respectively), all other educational categories that comprise the high school graduate group have a higher eligibility rate than those recruits who are nongraduates.

Another performance variable that tends to favor the enlistment of high school graduates over nongraduates is the rank obtained prior to separation. Higher ranks are typically found more often for servicemen whose educational credential is currently placed in the high school graduate category than for those who qualify as nongraduates.

Table 23 also shows the percent of recruits who needed moral waivers prior to enlistment. At first glance, it appears that recruits who were nongraduates when they enlisted required fewer moral waivers than recruits who were graduates. Particularly noticeable is the recruit with 13 or more years of education (64.5 percent of the recruits with this educational credential needed some form of moral waiver), compared with the recruit who had 11 years of education (37.5 percent needed moral waivers). The personal descriptive variable, percent needing moral waiver--like the variable, percent scoring above the 50th percentile on the AFQT--is not a function necessarily of a recruit and his educational background. The percent of recruits needing moral waivers prior to enlistment is probably affected by the standards imposed for enlistment. When reviewing

prospective applicants and deciding who should be considered "eligible" to enlist, one must be able to discount those differences between variables that are actually conditions for enlistment. It is likely that recruits who are classified as nongraduates have fewer waivers because fewer non-graduates who need waivers in order to qualify for enlistment are accepted. Nongraduates with police, drug, and various other records have a high risk of not finishing their initial enlistment; therefore, fewer exceptions (waivers) are granted to nongraduates. The Marine Corps in its "total man" concept is more apt to enlist an applicant whose educational credential is considered a high school graduate and needs a moral waiver because he has a historically lower risk of early attrition.

The remaining personal and performance variables presented in Tables 23 and 24 should be noted for further description and amplification, but these variables provide less insight into important differences between the several educational subgroups.

VI. CONCLUSION AND RECOMMENDATIONS

The issues presented in this research are complex and bear implications for all military services. The need for a clarification of educational requirements and their more consistent application during the preenlistment screening has been well established. Numerous educational alternatives are now available to young men and women throughout the nation. By some accounts, the screening criteria used by the Military Services today are antiquated. Furthermore, the manner in which the military services now classify the different secondary school credentials varies from Service to Service. Policies on educational credentials are ambiguous in many instances, and somewhat ineffective in selecting the most "successful" applicants for enlistment. The present research suggests, for example, that some young men who are now called "nongraduates" by the Marine Corps (for enlistment purposes) actually perform better in some ways than their peers who are categorized as "graduates." In this chapter, a modification to the grouping of the educational credentials currently used in the Marine Corps' two-tier system is proposed. In addition, a three-tier system for credential identification is presented for future study and possible implementation.

Table 8 (above) identifies how the Marine Corps currently defines the category "high school graduate" for the various educational credentials presented to the recruiters. It also shows that, in numerical terms, the second, third, and fifth greatest sources of new recruits each year typically fall within educational categories that are treated by the Marine Corps as a "non-high school graduate."

Tables 21 and 22 (above) summarize the data employed in this research using two types of variables--personal descriptive and behavioral performance.

It has already been discussed that the AFQT scores and moral waivers of persons with the various educational credentials are not considered "performance" variables. The AFQT scores and moral waiver rates of new recruits are a function of the educational credentials themselves, since these descriptive variables are actually influenced by the enlistment standards imposed on applicants (according to the way in which their educational credentials are categorized).

Of the performance variables used in this research, all are variables that can be influenced by the recruit while he is on active duty. The results or outcome of the performance variables are not known prior to enlistment. However, education levels can be evaluated on the basis of attrition rates, then arranged in a hierarchical order of "preference" and used to accept or reject applicants for enlistment.

The educational level/attrition rate relationship was just recently reemphasized in the study, "First Term Attrition Among Nonprior Service Enlisted Personnel: Loss Probabilities Based on Selected Entry Factors" (Flyer and Elster, 1983). This research reenforces what has already been established: educational level--defined in the general terms of "high school graduate" and "nongraduate"--is the most readily available characteristic for determining which applicants should be preferred over others. However, it is now appropriate, with the recent availability of data on secondary school credentials, to refine the educational categories that are traditionally used in the enlistment screening process.

Table 23 shows the percent of nonprior service accessions, by year, who are defined by the Marine Corps as high school "graduate." It should be emphasized that this table does not include recruits who are treated as "nongraduates" for enlistment purposes, though they may hold various forms of alternative credentials. Overall, then, this table omits 23 percent of Marine Corps enlistees from the data base.

Table 23

Percent of Male Nonprior Service Accessions Entering
the Marine Corps by Year of Accession Who
are Considered High School Graduates

Education Categories Considered H.S. Graduates	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
H. S. Diploma	67.7	62.7	64.9	67.5	72.4	72.0
Certificate of Completion	1.0	3.4	3.0	0.2	0.1	0.2
Vocational Cert. of Attendance	0	0	0.4	0.2	0.2	0.1
Academic Cert. of Attendance	0	3.1	1.1	1.0	4.4	5.6
Nonhigh School Grad. with 1 yr. College	0	0	0.1	0	0	0
College Cert. of Attendance	2.7	2.5	2.6	3.3	3.7	5.3
Assoc. of Arts	0.2	0.2	0.2	0.2	0.4	1.0
Bachelor of Arts	0.3	0.2	0.2	0.3	0.5	0.6
Total	71.9	72.1	72.5	72.7	81.7	84.6

Source: Derived from data provided by Headquarters,
Marine Corps and the Defense Manpower Data Center.

As seen in Table 23, recent years have witnessed a sizeable increase in the proportion of new Marine Corps recruits who are considered to possess a high school "diploma." However, these "gains" are at least partially influenced by the manner in which the Marine Corps defines

a high school graduate. For example, between 1981 and 1982, the Marine Corps experienced a 9 percent increase in its proportion of "graduates." Yet, less than 5 percent actually occurred for holders of bonafide diplomas--while a relatively larger gain (3.4 percent) occurred for holders of academic certificates of attendance. Thus, the way in which the Marine Corps defines its high school graduate category will obviously influence the number of "graduates" it takes during any given year.

Nevertheless, one must ask: should the pursuit for a higher percentage of high school graduate enlistees boil down to one of increasing the list of educational credentials that can be called "high school graduate"; or, should the Marine Corps strive mainly to select "quality" recruits whose educational credential has proven to be a valid predictor of successful performance in the military? The answer, from a pragmatic perspective, should be clear. The problem, from a political perspective, however, is that certain categories now treated as a high school graduate should probably be defined or treated (for the setting of minimum aptitude standards) as nongraduates, based on their performance in the Marine Corps. Pursuing quality through performance will increase the future benefits to the Marine Corps, while making recruiting (quota achievement) less difficult. If the most important resource is the human

resource, then the long-term benefits stemming from personal effectiveness and mission achievement must be paramount.

The 16 categories of educational credentials identified in this thesis provide more than adequate guidance for recruiters and policymakers who may wish to categorize them in a hierarchy of educational groups based on levels of "preferred" performance.

It is realized that there are certain limitations on how educational credentials may be arranged. Obviously, the recruit with 10 or 11 years of education should not be called a high school "graduate." At the same time, the Marine Corps does not have to categorize persons with Certificates of Completion, Vocational and Academic Certificates of Attendance, and non-high school graduates with one year of college as "high school graduates." If performance characteristics are such that the question of "quality" can be legitimately raised, then the definition and separation of these educational credentials should undergo objective evaluation. As an example, it is possible to create for screening purposes three separate educational categories--such as Educational Categories (Ed. Cats.) A, B, and C.⁶ Category A could be the "best" of the high school graduates;

⁶The three-tier Educational Category System is explained and discussed in M. J. Eitelberg, Evaluation of Education Standards for Military Enlistment, NPS Report (Monterey, Ca.: Naval Postgraduate School, forthcoming).

Category B could be the "best" of the nongraduates and the "worst" of the high school graduates; and Category C could be the remaining group of applicants. This could create a separate pool of persons who may be less preferred than graduates, but more desirable than nongraduates, when the Marine Corps has to look for applicants to meet its manpower goals.

From the attrition data in Table 22 (above), and using the educational level-attrition rate algorithm, Category A would consist of: high school graduates with diplomas, non-high school graduates with the first year of college, and recruits with 13 or more years of schooling. Category B would include: persons with certificates of completion and academic certificates of attendance, and those with 12 years of education but with no certification. Category C would consist of the remaining persons: those with 10 and 11 years of education, and GED recipients.

The neutral designators for grouping educational credentials would remove the implied meanings usually attached to the labels, "graduate" and "nongraduate." The applicant would be identified strictly by a non-connotative, "value-free" Educational Category, as we now have AFQT Categories. The grouping of credentials within Educational categories, or Ed. Cats., would be dependent upon the attrition rates (and other performance variables) of previous recruits with corresponding educational credentials. This would serve to

eliminate the present problem of whether a certain credential or agency certificate should carry the title of "graduate" or "nongraduate." At the same time, military specialists and policymakers would be free to make Ed. Cat. standards "fit" the evidence of performance (attrition rates)--based on a strictly military set of criteria--without concern over whether recruits with certain educational credentials should be classified as "graduates" or "nongraduates." This system would free the policymaker to group together any of the various educational credentials or levels of education with only one purpose in mind: to recruit individuals who have the best probability of successful performance.

With these educational parameters in place, the Marine Corps could stress "quality," as defined by performance factors, in its establishment of educational groups. The Marine Corps could stress the recruitment of applicants who may or may not be a high school graduate by current definition, but whose performance will probably be desirable.

The Educational Category system described above is a long-term proposal that this research supports. But this research does not address or analyze all issues thoroughly for implementation of such a recommendation. Further research is suggested to determine the costs and benefits of both the three-tier approach and the revised method for grouping credentials and levels of education.

A more immediate recommendation would be the reclassification of the current educational levels in the two-tier system now being used by the Marine Corps.

The present research suggests that the Marine Corps investigate seriously the possible reclassification of persons with vocational certificates of attendance and certificates of completion as "non-high school graduates."

The attrition rate for enlistees possessing vocational certificates of attendance is about 1.5 percent lower than for those with 11 years of education (and the historical norm). These individuals have the lowest mean AFQT percentile score among the various educational categories considered high school "graduates" and the fourth lowest score overall. Moreover, only 4 percent of persons in this subgroup are recommended for reenlistment at the time of separation.

Young men with vocational certificates of attendance represent less than 1 percent of all new recruits since 1978. If this educational category were redefined as "non-high school graduate," the overall percentage of "high school graduates" might adjust downward by only a very slight amount. The result would be that the Marine Corps would have just fewer "high school graduates" to report at the end of each year, but a somewhat improved system for selecting qualified recruits.

Table 24 presents similar categories as shown in Table 23, but creates a modified "high school graduate" group, based on the recommendation for eliminating vocational certificates of attendance and certificates of completion.

Table 24

Percent of Male Nonprior Service Accessions Entering
the Marine Corps by Year of Accession, and a
Modified High School Graduate Group

Education Categories Considered	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
H. S. Graduates						
H. S. Diploma	67.7	62.7	64.9	67.5	72.4	72.0
Academic Cert. of Attendance	0	3.1	1.1	1.0	4.4	5.6
Nonhigh School Grad. with 1 yr. College	0	0	0.1	0	0	0
College Cert. of Attendance	2.7	2.5	2.6	3.3	3.7	5.3
Acad. Associate	0.2	0.2	0.2	0.2	0.4	1.0
Bachelor of Arts	0.3	0.2	0.2	0.3	0.5	0.6
Total	70.9	68.7	69.1	72.3	81.4	84.5

Source: Derived from data provided by Headquarters,
Marine Corps and the Defense Manpower Data Center.

Table 24 shows that there would be a generally small effect resulting from the redefinition of vocational certificates of attendance and certificates of completion as

"nongraduates." The proportion of male recruits considered "high school graduates" during fiscal years 1979 and 1980 would drop below 70 percent, but in later years (1981 and 1982), the percentage of high school graduates would still compare favorably with the percentage of high school graduates in the 18-to-23-year-old civilian population (about 75 percent).

The reclassification of vocational certificates of attendance or certificates of completion should be relatively easy to implement. If DoD requires these two educational credentials to be considered high school graduates when reporting the percent of accessions for any given period, such a requirement does not need to preclude the Marine Corps from having its own more stringent classification system. The position of the Marine Corps should be to seek the enlistment of the "best" potential Marine.

An effort has been made here to present a reasoned formulation of a new policy concerning current educational credentials and the way they are used to determine eligibility for enlistment.

It is concluded that there must be finer clarifications, clearer quota systems, and more precise standards for enlisting prospective applicants. As noted, currently defined "non-high school graduates" present the strength and means for meeting enlistment goals, quality in both the short-term and long run, and manpower ceilings. A

reclassification of current educational credentials within the graduate-nongraduate structure would be the first step in aligning educational credentials better with performance. In addition, further research can be pursued on the feasibility of using a three-tier system for grouping secondary school credentials and levels of attainment.

APPENDIX A

ENLISTMENT DOCUMENTATION

Preenlistment Interview Form

NAME _____		DATE _____		PROSPECT APPLICANT CARD	
ADDRESS _____				FOLLOW UP ACTION DATES/RESULTS OF CONTACTS:	
PHONE _____	SOURCE _____	_____			
SCHOOL _____	SSN _____	_____			
INTEREST _____		_____			
SCHEDULE FOR CONTACT:		_____			
INITIAL: _____	DATE _____	TIME _____	RESULTS _____	_____	
ADDL CALLS: _____		_____			
_____		_____			
PHONOGRAM SENT _____		ACTION DATE _____			
VISIT PLAN _____	DATE _____	RESULTS _____	_____		
CONTACT MADE BY <input type="checkbox"/> _____		PHONE <input type="checkbox"/> _____	PERS VISIT _____		
RECRUITER: _____		_____			
		ADDITIONAL DATA ON PROSPECT			
		_____ IN COL OR WILL BE GOING			
		_____ CHECK START OF SEMESTER			
		_____ RECHECK START OF 2ND SEMESTER			
		_____ REFERRED TO OSO			

ENLISTMENT DOCUMENTATION

Preenlistment Interview Form

INTERVIEW/PROCESSING DATA		EST / AFQT EDPT	
INTWV DATE	SECTOR CODE	DATE SCORE	
DOB / / DAY	HT WT	ASVAB	
POB / / DAY	*PHYS	CO FA EL	
CITY COUNTY STATE		OF GM MM	
LAST GRADE COMPL	*MORAL	CL ST GT	
YR GRADUATED HS	HAIR EYES	SC	
OCCUPATION	RACE SEX	AFES	
PAY \$	RLGN	QUAL	
RE CODE	MOS	UNQUAL	
DISCHARGE		P U L H E S	
PRIOR SVC	MONTHS	ACTION	
MOTHER'S MAIDEN NAME	DATE	ENLISTED	
FATHER'S NAME		REJECTED	
PARENT'S ADDRESS		REASON REJECTED	
SPOUSE'S NAME	# DEPN	WAIVER CASE	
DRIVERS LIC#		YES	
BIRTH CERT#		NO	
SGLI DESIGN 1.		REASON	
2.		DISPOSITION:	
		1. DESTROY	

ASVAB Test Score Results

(Example)

UNVERIFIED TEST SCORES (ASVAB 8-9-10) (SINGLE APPLICANT)		NAME:	
		DATE: 7 Apr 83	
		SSN:	
		TEST VERSION: 9A	
		SERVICE: RA N AF MC CG	
		REMARKS: 15/64 (47)	
		TESTER SIGNATURE:	

AR	10	WK	10	PC	4	NU	23
MC	45	÷ 2 =					

MEPCOM FORM 622, 1 Mar 81

Previous editions of this form are obsolete.

UNITED STATES MARINE CORPS
(Organizational Address)

In Reply Refer To

Dear Educator:

In the past, applicants have experienced difficulty in enlisting in the United States Marine Corps because they lack accurate official High School education verification. This letter is provided to assist in precluding problems of this nature.

Special opportunities and/or programs require us to categorize the educational status of applicants in the following categories:

(1) Attended through the 10th Grade - (This category appears to cause confusion.) The prerequisite is - THAT THE APPLICANT WAS PRESENT IN SCHOOL AFTER THE LAST DAY OF THE 10TH GRADE. The Marine Corps is interested in whether the applicant attended through the 10th Grade. Therefore, the school is requested to provide a copy of the transcripts and a letter on school stationary (with school seal if possible) stating that the applicant has attended through the 10th grade, or a school official may complete the form on the opposite side of this letter if a school letter is not practical.

(2) Attended Through the 12th Grade - Applicants in this category verify their status by having the school provide a copy of the high school transcripts and a school official completing the form on the opposite side of this letter (with school seal if possible).

(3) High School Senior - Applicants in this category verify their status by having the school provide a copy of the high school transcripts and a school official completing the form on the opposite side of this letter (with school seal if possible).

(4) High School Graduate - Applicants in this category present the high school diploma or, if lost, have a school official complete the form on the opposite side of this letter (with school seal if possible).

It is respectfully requested that verification be provided in accordance with the appropriate category explained above; therefore, we have asked _____ Date Of Birth _____ to authorize the release of his/her records by completing the following statement:

"I am aware of the provisions of the Family Education Rights Act. I hereby authorize the release of my education status and/or records to the United States Marine Corps agency listed on the above letterhead."

(APPLICANT)

(WITNESS)

(DATE)

Major USMC
Commanding

EDUCATION VERIFICATION

(Date)

The following education verification is provided as requested by this letter on _____.

(1) ATTENDED THROUGH THE 10TH GRADE - This is to certify that the applicant has attended through the 10th Grade and dropped out of school on _____. High School transcripts are attached.
(Date)

(2) ATTENDED THROUGH THE 12TH GRADE - This is to certify that the applicant has attended through the 12th grade but failed to receive a high school diploma for the following reason: _____

High school transcripts are attached.

(3) HIGH SCHOOL SENIOR - This is to certify that the applicant is currently enrolled in a traditional three or four year high school, is in good standing and should graduate with his/her class on _____. High School transcripts are attached. (Date)

(4) HIGH SCHOOL GRADUATE - This is to certify that the applicant graduated from this school and received a high school diploma on _____. High School transcripts are attached.
(Date)

Remarks:

PLACE SCHOOL SEAL
HERE (IF AVAILABLE)

SIGNATURE OF SCHOOL OFFICIAL

NAME (TYPED OR PRINTED) AND TITLE

NAME OF SCHOOL

ADDRESS OF SCHOOL

TELEPHONE NUMBER OF SCHOOL

APPENDIX B

PERCENT OF MALE NONPRIOR SERVICE ACCESSIONS WHO SCORED BELOW THE 50TH PERCENTILE BY YEAR OF ACCESSION AND LEVEL OF EDUCATION

Level of Education (Years)	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
7 Through 9	44.9	66.1	37.0	66.7	0 ^c	50.0 ^c
10 Years	64.2	59.2	54.2	44.6	41.5	20.2
11 Years	58.9	54.6	50.9	41.7	37.8	17.8
12 with No Certification	0 ^a	50.0 ^c	73.7	63.2	62.4	51.5
12 with H.S. Diploma	55.7	57.6	55.9	45.6	44.1	42.3
12 with GED	43.5	44.6	42.7	37.7	36.9	20.3
12 with H.S. Certificate of Completion	69.3	70.8	65.4	59.0	51.6	63.0
12 with Vocational Certificate of Attendance	0 ^a	0 ^a	65.7	65.0	63.0	42.9
12 with Academic Certificate of Attendance	100 ^b	75.3	71.4	62.1	63.5	58.0
13 with 1st Year of College Equivalency	63.6	57.1	20.0	0 ^b	0 ^a	0 ^d
13 with College Certificate of Attendance	32.5	33.1	27.1	22.4	19.8	21.2
14 with AA Degree	23.5	28.1	32.9	36.2	12.4	15.8
14 with College Certificate of Attendance	27.4	31.1	28.4	16.7	17.7	21.1

Level of Education (Years)	Year of Accession					
	1978	1979	1980	1981	1982	1983 (Apr)
15 with College Certificate of Attendance	29.3	31.7	29.3	18.0	16.1	20.6
16 with BA Degree	26.6	19.5	17.6	30.2	19.3	17.2

Source: Derived from data provided by Headquarters, Marine Corps and the Defense Manpower Data Center.

a No recruits enlisted with this educational credential.

b One recruit enlisted with this educational credential. Cell size influences percentage.

c Two recruits enlisted with this educational credential. Cell size influences percentage.

d Three recruits enlisted with this educational credential. Cell size influences percentage.

APPENDIX C

PERCENT OF MALE NONPRIOR SERVICE ACCESSIONS ENTERING THE MARINE CORPS BY YEAR OF ACCESSION, LEVEL OF EDUCATION AND AFQT^a

FY 1978

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	19.6	35.4	31.0	13.9
10 Year	16.0	19.8	39.8	24.5
11 Years	19.8	21.2	35.3	23.6
12 with No Certification	0	0	0	0
12 with H.S. Diploma	26.1	18.3	23.7	31.9
12 with GED	31.5	25.0	26.8	16.7
12 with H.S. Certificate of Completion	16.1	14.6	27.8	41.5
12 with Vocational Certificate of Attendance	0	0	0	0
12 with Academic Certificate of Attendance	0	0	0	100
13 with 1st Year of College Equivalency	36.4	0	36.4	27.3
13 with College Certificate of Attendance	51.8	15.7	14.4	18.1
14 Years with AA Degree	70.6	5.9	16.2	7.4

14 with College Certificate of Attendance	56.2	16.4	15.3	12.4
15 with College Certificate of Attendance	61.8	8.9	11.4	17.9
16 years with BA Degree	56.7	16.7	14.4	12.2

FY 1979

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	17.0	17.0	52.5	13.6
10 Year	16.1	24.7	40.4	18.8
11 Years	21.1	24.4	35.7	18.8
12 with No Certification	0	50.0	50.0	0
12 with H.S. Diploma	24.8	17.6	24.6	33.1
12 with GED	29.9	25.6	29.8	14.8
12 with H.S. Certificate of Completion	13.9	15.3	27.4	43.3
12 with Vocational Certificate of Attendance	0	0	0	0
12 with Academic Certificate of Attendance	12.2	12.5	27.3	48.1
13 with 1st Year of College Equivalency	42.9	0	28.6	28.6
13 with College Certificate of Attendance	49.2	17.7	15.0	18.1

14 years with AA Degree	59.7	12.3	14.0	14.0
14 with College Certificate of Attendance	53.9	15.0	14.6	16.5
15 with College Certificate of Attendance	57.4	10.9	21.8	9.99
16 years with BA Degree	64.6	15.9	6.1	13.4

FY 1980

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	37.0	25.9	22.2	14.8
10 Year	19.7	26.0	38.7	15.6
11 Years	23.9	25.3	35.9	14.9
12 with No Certification	13.1	13.1	25.3	48.4
12 with H.S. Diploma	26.2	17.9	23.9	32.0
12 with GED	33.6	23.7	30.7	12.0
12 with H.S. Certificate of Completion	17.7	16.8	28.7	36.8
12 with Vocational Certificate of Attendance	17.2	19.4	21.6	44.0
12 with Academic Certificate of Attendance	12.5	16.1	22.7	48.7
13 with 1st Year of College Equivalency	60.0	20.0	0	20.0

13 with College Certificate of Attendance	57.7	15.3	11.2	15.8
14 Years with AA Degree	60.0	7.1	14.1	18.8
14 with College Certificate of Attendance	55.4	16.2	14.0	14.4
15 with College Certificate of Attendance	50.7	20.0	12.9	16.4
16 years with BA Degree	55.4	27.0	5.4	12.2

FY 1981

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	33.3	0	50.0	16.7
10 Year	23.8	31.6	41.0	3.6
11 Years	29.0	29.3	34.9	6.8
12 with No Certification	18.4	18.4	38.2	24.9
12 with H.S. Diploma	32.7	21.7	29.6	16.1
12 with GED	32.1	30.2	34.3	3.4
12 with H.S. Certificate of Completion	27.3	13.6	36.4	22.7
12 with Vocational Certificate of Attendance	17.5	17.5	45.0	20.0
12 with Academic Certificate of Attendance	17.6	20.3	37.4	24.7

13 with 1st Year of College Equivalency	100	0	0	0
13 with College Certificate of Attendance	60.7	16.9	17.5	5.0
14 years with AA Degree	58.6	5.2	29.3	6.9
14 with College Certificate of Attendance	70.1	13.3	11.9	4.84
15 with College Certificate of Attendance	72.7	9.4	15.8	2.2
16 years with BA Degree	53.1	16.7	26.0	4.2

FY 1982

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	100	0	0	0
10 Year	24.9	33.5	41.4	0.2
11 Years	30.4	31.9	37.1	0.7
12 with No Certification	18.8	18.8	47.6	14.8
12 with H.S. Diploma	33.6	22.3	33.3	10.8
12 with GED	31.5	31.6	36.2	0.7
12 with H.S. Certificate of Completion	16.1	32.3	41.9	9.7
12 with Vocational Certificate of Attendance	20.0	16.9	47.6	15.4

12 with Academic Certificate of Attendance	16.4	20.1	45.5	18.0
13 with 1st Year of College Equivalency	0	0	0	0
13 with College Certificate of Attendance	63.2	17.8	9.3	3.1
14 years with AA Degree	69.7	17.8	9.3	3.1
14 with College Certificate of Attendance	67.6	14.8	12.9	4.8
15 with College Certificate of Attendance	67.9	16.1	14.5	1.5
16 years with BA Degree	60.5	20.2	16.8	2.5

FY 1983 (Apr)

Level of Education (Years)	AFQT Category			
	I/II	IIIA	IIIB	IV
7 Through 9	50.0	0	50.0	0
10 Year	39.9	39.8	19.9	0.3
11 Years	49.5	32.8	17.5	0.3
12 with No Certification	36.4	12.1	39.4	12.1
12 with H.S. Diploma	36.2	21.6	32.5	9.7
12 with GED	41.4	38.3	18.9	1.4
12 with H.S. Certificate of Completion	25.9	11.1	59.3	3.7

12 with Vocational Certificate of Attendance	35.7	21.4	28.6	14.3
12 with Academic Certificate of Attendance	19.8	22.2	46.5	11.5
13 with 1st Year of College Equivalency	66.7	33.3	0	0
13 with College Certificate of Attendance	63.6	15.2	16.9	4.3
14 years with AA Degree	69.2	15.1	15.1	0.7
14 with College Certificate of Attendance	64.5	14.3	18.9	2.3
15 with College Certificate of Attendance	65.0	14.4	16.5	4.1
16 years with BA Degree	62.4	20.4	14.0	3.2

Source: Derived from data provided by Headquarters,
Marine Corps and the Defense Manpower Data Center.

a Slight differences in the total accession percentages
in this table, when compared with other tables, are due to
mathematical rounding.

APPENDIX D

PERCENT ATTRITION AMONG MALE NONPRIOR SERVICE ACCESSIONS WHO ENTERED THE MARINE CORPS BY YEAR OF ACCESSION, LEVEL OF EDUCATION, AGE, AND LENGTH OF SERVICE

FY 1978; 3 Year Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	51.6	60.5	50.0	85.7	50.0	0
10 Years	43.9	44.7	43.8	47.0	51.4	50.0
11 Years	38.8	35.3	35.5	38.9	41.0	60.0
12 with No Certification	0	0	0	0	0	0
12 with H.S. Diploma	21.6	19.5	25.3	31.8	38.4	39.1
12 with GED	41.7	38.7	37.6	35.4	54.0	69.2
12 with H.S. Certificate of Completion	41.5	29.5	32.9	28.6	31.0	0
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	0	0	0	0	0	0
13 with 1st Year of College Equivalency	0	0	0	100	50.0	0
13 with College Certificate of Attendance	0	22.2	18.4	26.1	27.6	40.0
14 with AA Degree	0	0	0	8.3	18.4	50.0
14 with College Cert. of Attendance	0	0	15.8	17.2	25.9	50.0

15 with College Cert. of Attendance	0	100	50.0	25.0	25.7	54.6
16 with BA Degree	0	0	0	0	27.6	38.5

FY 1979; 3 Year Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	63.0	57.1	60.0	80.0	100	0
10 Years	44.1	45.6	54.2	52.0	58.6	66.7
11 Years	39.8	40.2	42.9	43.5	53.0	66.7
12 with No Certification	100	0	0	0	0	0
12 with H.S. Diploma	20.4	20.5	24.2	30.3	35.2	39.1
12 with GED	44.8	40.3	41.8	56.4	47.8	35.7
12 with H.S. Certificate of Completion	35.0	31.2	36.5	36.5	45.6	25.0
12 with Vocational Certificate of Attendance	0	0	0	0	0	0
12 with Academic Certificate of Attendance	26.2	33.2	34.1	34.6	35.7	0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	50.0	11.5	15.0	19.1	30.3	30.8
14 with AA Degree	0	0	0	25.0	27.5	80.0
14 with College Cert. of Attendance	0	0	17.7	22.2	27.1	33.3

15 with College Cert. of Attendance	0	0	50.0	33.3	35.5	66.7
16 with BA Degree	0	0	0	0	17.8	33.3

FY 1980; 2 Year Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	62.5	71.4	57.2	75.0	100	0
10 Years	35.8	34.8	34.8	38.2	46.2	81.8
11 Years	30.5	30.0	30.2	34.9	41.6	57.2
12 with No Certification	27.6	25.9	28.6	31.8	38.0	33.3
12 with H.S. Diploma	14.4	15.1	19.5	23.4	31.2	29.2
12 with GED	25.8	29.3	31.9	30.8	38.5	80.0
12 with H.S. Certificate of Completion	17.4	23.2	24.8	31.6	44.1	40.0
12 with Vocational Certificate of Attendance	31.6	22.2	38.1	66.7	40.0	0
12 with Academic Certificate of Attendance	28.2	22.4	27.6	26.5	45.2	0
13 with 1st Year of College Equivalency	0	0	22.2	0	9.1	0
13 with College Certificate of Attendance	50.0	10.5	16.8	14.5	23.4	73.3
14 with AA Degree	0	0	20.0	0	29.0	25.0
14 with College Cert. of Attendance	0	0	7.2	9.0	21.9	14.3

15 with College Cert. of Attendance	0	0	50.0	14.3	25.4	14.3
16 with BA Degree	0	0	0	0	7.0	31.3

FY 1981; 1 Year Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	50.0	100	100	100	0	0
10 Years	24.7	29.8	33.4	41.6	43.2	57.2
11 Years	21.7	20.3	24.5	30.1	36.0	36.4
12 with No Certification	17.0	17.1	22.0	22.4	29.5	42.9
12 with H.S. Diploma	11.3	11.7	15.5	18.4	24.2	38.2
12 with GED	24.7	21.2	28.5	29.9	35.8	35.3
12 with H.S. Certificate of Completion	25.0	21.7	17.7	33.3	38.5	0
12 with Vocational Certificate of Attendance	25.0	16.7	37.5	33.3	33.3	100
12 with Academic Certificate of Attendance	15.3	19.2	26.4	20.7	39.1	0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	33.3	19.2	13.8	9.8	23.5	30.0
14 with AA Degree	0	0	0	12.5	19.5	0
14 with College Cert. of Attendance	0	25.0	11.8	12.1	18.7	50.0

15 with College Cert. of Attendance	0	0	100	0	20.0	25.0
16 with BA Degree	0	0	0	0	17.6	23.8

FY 1982; 6 Month Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	0	100	100	0	0	0
10 Years	25.0	27.8	31.9	42.5	3.72	72.7
11 Years	23.9	27.7	29.1	29.4	35.1	42.9
12 with No Certification	20.0	21.1	25.1	30.1	36.7	66.7
12 with H.S. Diploma	11.0	11.0	14.9	16.6	24.4	31.9
12 with GED	24.3	25.1	30.9	28.1	37.7	40.0
12 with H.S. Certificate of Completion	0	20.0	10.0	0	0	0
12 with Vocational Certificate of Attendance	0	17.7	17.7	22.2	33.3	0
12 with Academic Certificate of Attendance	15.4	16.4	21.9	24.5	37.9	25.0
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	50.0	20.0	12.5	11.2	15.2	35.0
14 with AA Degree	0	0	0	3.7	12.8	33.3
14 with College Cert. of Attendance	0	0	0	14.8	16.9	23.1

15 with College Cert. of Attendance	0	0	0	0	14.9	41.7
16 with BA Degree	0	0	0	0	13.6	13.3

FY 1983(Apr); 3 Month Length of Service

Level of Education (Years)	Age					
	17	18	19	20	21-26	27+
7 Through 9	0	0	0	0	0	0
10 Years	20.2	19.7	17.0	29.2	25.7	25.0
11 Years	16.8	16.3	17.5	17.3	19.5	37.5
12 with No Certification	50.0	12.5	16.7	33.3	33.4	0
12 with H.S. Diploma	9.0	8.6	8.6	10.9	14.3	20.8
12 with GED	20.8	17.6	22.2	20.0	24.5	0
12 with H.S. Certificate of Completion	0	30.0	9.1	25.0	0	0
12 with Vocational Certificate of Attendance	0	25.0	0	0	0	0
12 with Academic Certificate of Attendance	18.8	13.7	16.4	15.1	18.9	33.3
13 with 1st Year of College Equivalency	0	0	0	0	0	0
13 with College Certificate of Attendance	0	0	4.7	7.4	14.4	23.1
14 with AA Degree	0	0	0	6.7	5.5	33.3
14 with College Cert. of Attendance	0	0	0	0	10.9	8.3

15 with College Cert. of Attendance	0	0	0	0	8.1	10.0
16 with BA Degree	0	0	0	0	10.0	16.7

Source: Derived from data provided by Headquarters,
Marine Corps and the Defense Manpower Data Center.

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